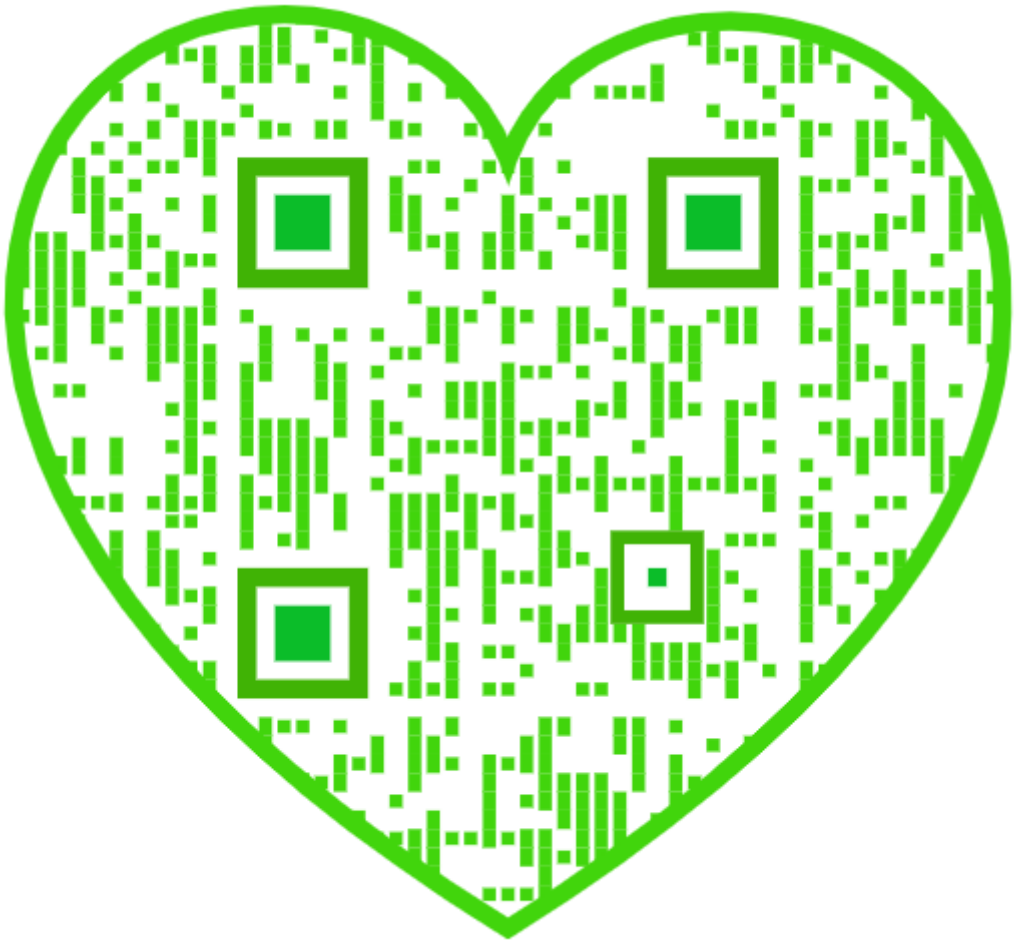

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THE COMPLETE ANGLER.

A PRACTICAL GUIDE

TO

Bottom Fishing, Trolling, Spinning, and Fly-Fishing.

WITH A

CHAPTER ON SEA FISHING.

NEW YORK:
STREET & SMITH, Publishers,
31 Rose Street.

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PREFACE.

There are thousands of people who love a day's fishing, but who have neither the time nor the inclination to make a profound study of the gentle craft. They are often dispirited and disappointed at their want of success. They have sighed for a comprehensive, practical, yet handy manual, which is neither too large for the pocket, nor too brief to be useful.

Perhaps no out-door sport has so large or so fine a literature as angling. So full and exhaustive are the various treatises, that it appears presumptuous to place another volume on the already loaded shelves of the fisherman's library. If anglers all belonged to the rich and leisurely grades of society, I should certainly not have expanded my rough fishing notes into a book.

I would direct attention to the various useful tables in the Fisherman's Calendar, to the tried recipes, as well as to the practical hints on the making and mending of fishing-gear, fly-dressing, and odd memoranda, which will be duly appreciated by those who have experienced the chagrin of tackle breaking in the midst of a day's sport, or their stock of flies becoming exhausted far away from the usual sources of supply. A little ingenuity and patience will soon bring the necessary skill and neatness to do these things well.

Though these things have been described ostensibly for the guidance and instruction of the young and inexperienced angler, I am not without hope that it will be found sufficiently valuable, and full of suggestive practical hints, as to commend itself to many an old angler as a necessary part of his outfit.

THE AUTHOR.

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THE GENTLE CRAFT.

CHAPTER I.

ANGLING AND ANGLERS.

Who can adequately describe the pleasures that surround the angler? Who can catalogue the charms that cling around his pursuit? He pursues his avocation amid scenes of natural beauty. It is he who follows the windings of the silvery river, and becomes acquainted with its course. He knows the joyous leaps it takes down the bold cascade, and how it bubbles rejoicingly in its career over the rapids. He knows the solitude of its silent depths, and the brilliancy of its shallows. He is confined to no season. He can salute Nature when she laughs with the budding flowers, and when her breath is the glorious breath of Spring. The rustling sedges make music in his ear ere the mist has rolled off the surface of the water, or the dew been kissed from the grass by the sun's rays. The lark sings for him, and the piping bullfinch chirps along his path. The gorgeous kingfisher heeds him not, and the water-hen scarcely moves from her nest as he passes. The storm and the tempest scarcely hinder his sport. He throws his line when ruddy Autumn gilds the western heavens, and the fruit of the year hangs heavy on the bough, or waves in golden abundance on the uplands. Even stern Winter does not forbid him his enjoyment. If he cares to pursue his favorite pastime, he may do equally when the tall bulrushes, wavy reeds, and reed-mace rattle with December's winds, as when the marsh marigold opes its big yellow eyes on an April day, or the tall spike of the purple loose-strife mingles with the creamy hue of the meadow sweet, and is relieved by the somber green of the sedges. If he is an ardent sportsman, the whole year is before him. When the trout will not rise to the tempt-

ing fly, or be seduced by the seductive bait, the voracious pike will seize the spinning minnow and try the patience and skill of the fisherman.

It was always so. In the infancy of mankind, the finny tribes were pursued by a primitive people with as much ardor as they are by civilized Englishmen at the present time. Savage and cultivated nations equally followed, either as a business or as a pastime, the occupation of capturing fish with a line and hook, with or without a rod. We find its praises celebrated in ancient poetry, and its memory embalmed in Holy Writ. The rudest appliances of a savage life have been used to aid the angler at his delightful task, and science has not disdained to aid the modern fisherman in his favorite sport. There are tribes who yet fashion fish-hooks out of human jaw-bones; and our own progenitor smanaged to insnare fish with hooks formed of flint. Indeed, the Anglo-Saxon race have followed angling with an energy and a zest far beyond any other European nation. We know they pursued it as a profitable occupation in remote times, and we have it on the authority of the Venerable Bede that the people of Sussex were at one time rescued from famine by being taught by Wilfred to catch fish. Among the earliest printed books is one on fishing by a countrywoman of our own, Dame Juliana Berners, Bernes, or Barnes (whichever it is), prioress of the nunnery of Sopwell, near St Alban's. This curious tract is entitled, "The Treatyse of Fysshynge wyth an Angle," and appears by the colophon to have been printed by old Wynkyn de Worde in 1496. The old lady shows that if sport fails the ambitious angler, his time is not spent in vain; for has he not "atte the leest, his holsom walke, and mery at his ease, a swete ayre of the swete sauvoure of the meede flowres, that makyth him hungry; he hereth the melodyous armony of fowles; he seeth the young swannes, heerons, ducks, cotes, and many other fowles, wyth theyr brodes; whyche me semyth better than alle the noyse of houndys, the blastes of hornys, and the scrye of foulis, that hunters, fawkeners, and fowlers do make? And," says the good old lady, "if the angler take fysshe, surely there is no man merier he is in his spyryte." Then amid the many other books that have been written for the solace of the angler, stands old Isaak Walton, with the "Complete Angler," as immortal as the language in which it is written, and the instincts of the people by whom it is read.

I fancy, however, that few anglers care for that smattering of science which too many modern writers throw over the sport. They are somewhat indifferent to the "Rudiments of Ichthyology," and are heedless of the classification which their spoil might receive in a museum. They rather want to know the habits of the fish, where he frequents, the state of his appetite, and the particular variety of his taste at different seasons of the year, and in different waters. They may know but little of entomology; but they know the attractiveness of a May-fly to a speckled trout. Anglers study natural history in a natural way, and in the best school —that of experience; and hence they become not only the best and keenest sportsmen, but almost the apostles of sport in every part of the globe.

It was formerly the fashion to jeer at the angler—he was cruel, foolish, and wrong—but we have outlived this sickly sentimentalism; a stronger, healthier, natural feeling pervades our national life. The whirling industry of the people requires some relaxation; and can we wonder that the thousand charms of "the honest man's recreation" commends it to thousands who wish for exercise and amusement? Exercise is but of little use to the dyspeptic, unless it is carried out with a motive. The love of sport, and the gentle excitement of angling, furnishes that motive in the most unexceptional manner. It carries, too, its votary out of the dull beaten track of mankind, and places the city-pent, health-seeking, holiday-making angler face to face with nature in her most unconventional moods.

Nor is this all. There is a fascination in this sport which has captivated the greatest minds of the world. We have a fine picture of the brave old Christopher North, as a child in petticoats, "whipping a stream" for "wee troutie." We have him as the stalwart man, wandering through his native hills and by the roaring stream, combining sport and philosophy in a charming manner. What a host of names rise up in connection with the sport! Sir Francis Chantrey,

"The Phidas of the second Greece,"

as rugged Ebenezer Elliot calls him; the author of "Waverly;" the inventor of the safety-lamp, Sir Humphry Davey; Archdeacon Paley, the auther of the "Evidences of Christianity;" burly Daniel Webster; the hero of Trafalgar; and a thousand others whose names are "household words" for

wit, learning, valor, piety, and truth, suggest themselves as identified with the sport. Neither is the love of it confined to the British isles; for across the Channel, up the Rhine, nay, even in the solitudes of a Lapland forest, may enthusiastic anglers be found. A friend speaks of the sport he had on the Guadalquiver; another has "whipped" an Alpine stream with success. Wherever trout are to be found, there will the fisherman be. The Pharaohs fished in the Nile—the Romans paid fortunes for red mullet. The Church took care of fishing-grounds in the middle ages, and some of the best streams and lakes I know are near the ruins of an old abbey or priory.

Who can say that it is, then, an ignoble sport? I have seen it asserted that angling is so quiet, gentle, and contemplative, that I picture at once the snaring of tittlebats with a crooked pin; or a dull afternoon in a punt, without a bite —discovering after a world of patience that you have forgotten the bait. Ignoble and unexciting! Let those who have felt the thrill of delight, when they have hooked a magnificent salmon, answer. There is a thin, tapering, flexible wand, a fine, thin gut-line, a small fly, and a trial of skill which generally ends in the triumph of the angler. But if he is clumsy, or careless, he loses his pains and his fish. There may be more exciting sports, but none that require a quicker eye, a more delicate hand and sense of touch, readiness of resource, activity, and physical endurance. Large fish are captured daily in their native element with tackle which seems too frail to secure a gudgeon; yet it is done by art and skill. The most active of river fish, bounding, vigorous, and agile, succumb to the untiring patience and well-exercised judgment and skill of the angler. Attempt to use rude strength, and your labor is in vain.

I wish to initiate the tyro into this marvelous art. I wish to give him confidence in his strength and knowledge; for although it is impossible to teach an art entirely by a book, much may be learned from it. The lessons of experience may be acquired, so that practice, when attainable, may not be thrown away in vain attempts, but rather that it should be judiciously applied to the given end, preventing waste of time and disappointment of heart. I shall indicate the best mode of practice, show what shallows to avoid. The young angler will soon find that brethren look upon the best angler as the best man. He will find glorious com-

panionship by the rivers and the streams. He will be separated from the toilsome, hard-breathing, hard-working world, drinking in visions of beauty amid scenes which will remain ever after among the most cherished memories of the heart.

There is something fair and honorable in the "gentle craft," whether pursued in still waters in the primitive, honest, and easy fashion of bottom fishing—whether by the more active exercise of trolling, or the most difficult but most glorious fly-fishing—whether natural or artificial insects are used—whether spinning or trolling with alive, dead, or artificial bait in mid-water, or laying seductive worms, gentles, or paste near the river bottom. Fish are not easily entrapped by the uninitiated. Skill and experience must be brought into play ere the angler can fill his creel, and these must be aided by no little special knowledge.

The fly-fisher must be in a certain sense an artist and a naturalist. He has to represent as best he can, by means of different substances of varied delicacy, tissue, and color, insects of the most diverse forms and changeable hues. He must do his work with the most perfect neatness. He must know well the outward form of many varieties of insects, their habits and localities, as well as the seasons in which they live and die. He should know which is likely to prove the most attractive food for the fish he angles for, and when to use it. Every kind and species ought to be associated in his mind with the proper place and the proper season. To do this well requires no little special knowledge, which I will help him to attain, and then he will be able to appreciate the truth of the doctrine, the "better angler the better man."

CHAPTER II.

FISH: THEIR HABITS, SENSES, AND HAUNTS.

"Ay," says the tender-hearted sentimentalist, "it is all very well to write enthusiastically on the pleasure of fishing, but how about the poor fish?"

How about the poor fish? And we are forthwith treated to the hacked and hackneyed quotations from Dr. Johnson and Lord Byron about Walton and anglers and angling, Nay, only the other day a newly fledged philosopher talked

learnedly about the sense of pain in the lower animals, the cruelty of baiting hooks and hooking fish, winding up with the well-known quotation about the "poor beetle," finding in corporal sufferance "a pang as great as when a giant dies," —which may be good poetry, but it is bad science. Shakespeare did not know that pain is comparative only, and depends on the organization of the nervous system, and if it were not so, the death of the fish by the angler's hook is less painful than that caused by the attack of other piscine species which prey on them. For fish do not die a painful death when taken out of the water. Some fish die instantaneously, as the herring; others, as the eel, perch, and pike, live long, and may be conveyed great distances from one pool to another. It is even said that pike, moved by an inscrutable instinct, will voluntarily cast themselves out of the water and transport themselves, by a series of jumps, to a neighboring river or pool. No one would grudge the ravenous pike any amount of pain, for it is so cruel and voracious that it preys upon its own species. I need not point to the hand of nature, or justify the angler's art by the doctrine of necessity.

Ere proceeding to treat of the senses and habits of the fish, let me look at this oft-repeated charge of cruelty. When the worm writhes on the hook, we know that it must feel a certain amount of pain, though it is more than probable that its movements partly arise from an instinctive effort to escape, for it equally wriggles and writhes when merely held between the fingers. Nay, we even know that cut in two the worm speedily recovers, and the missing tail grows again. There are instances innumerable in the insect world of an apparent insensibility to pain. Spiders will lose a limb with equanimity. Crabs will hobble off, leaving a claw behind. Frogs seem scarcely to heed also the loss of a limb, and even man, in a savage state, will bear an amount of pain almost impossible to realize. The Indian taunts his tormentors when at the stake: and without agreeing with R. W. Emerson, who seems to think that when the nervous system has received a certain shock pain ceases, either by the fainting of the injured, or the flesh becoming benumbed, we may fairly assume that "cruelty to animals," as displayed by anglers, is not a crime of very deep dye. Perch, pike, and even the timid roach, have been known to bite again with previous hooks still sticking in their jaws. Chris-

topher North humorously describes a trout going off with your "hook in one cheek, and his tongue in the other;" and there is abundant evidence to prove to those who are squeamish on the point, that it is not so very barbarous after all; or they may satisfy their scruples by using none but artifical baits; and they may be pleased to know that the best naturalists do not impute the struggles of the fish to escape from the hook to the sensation of pain, but rather to surprise and indignation, at finding their free volition interfered with; and that, according to Erasmus Wilson, "motion alone cannot be taken as an index of sensation."

Ere he can capture a fish, the inexperienced angler will find that he has much to learn; for though fish may be deficient in sensation, they can see, hear, and move with remarkable quickness.

The eye of a fish is not only large in proportion to its size, but it is larger in thick and muddy waters than in clear streams. It concentrates the diffused light of a thick medium in a remarkable manner. Hence it is necessary that the angler should not only keep out of sight as much as possible, but that his attire should be of a dark and sober tint. Not only must he beware of his shadow falling into the stream, but he must know to some extent the laws of reflection and refraction, or he will be unconsciously showing his image to the fishes while pluming himself on his skill in keeping out of sight. Hence a cloudy day is so much superior to the brilliant sunshine for the purposes of the angler. The sight of fishes is one of their highest sentient endowments; and if the point of the hook but protrude from the tempting bait, it will not lure the stupidest fish in the muddy waters of a ditch.

I resided for some time in the neighborhood of a pond where the fish were in the habit of being fed. I could never discover whether it was the sight of the feeder on the brink, or the sound of his footstep, that first attracted them. They were so fearless that they boldly came to the water's edge, and apparently unable to recognize whether it was their master or a stranger feeding them. A hurried tramp or noisy footstep at once sent them flying to the deeper depths of their narrow home. I am inclined to think that the hearing of fish is more acute than naturalists seem to say is possible. A lump of ground bait, however loud the splash, will not disturb them; and they soon seem to as-

sociate the noise with the food; but an unusual sound will scare them like sheep before a strange dog. No one can resist the inference, that the footstep of the angler should be as light as possible, and all unusual sounds should be carefully avoided.

Do fish smell? Bottom-fishers are peculiarly interested in this question. They, like the fly-fishers, are somewhat dependent for sport on the presumption that fish are gifted with a discriminating power of sight; but they also hold, according to the traditions of their predecessors, that not only can fish smell, but that their olfactory nerves are remarkably acute; and acting on this presumption, we have scented and colored pastes in great variety. Erasmus Wilson places the sense of sight first, hearing second, and smell third in fish. Indeed, he almost insinuates that the difference between one bait and another, if equally attractive to the eye, would be scarcely perceptible. Judging from a long experience, I am inclined to place the sense of smell in a higher rank than that of hearing, practically, if not anatomically. The water, it is true, cannot course through the valvular openings which appear to serve as nostrils, and it has to be expelled through the apertures provided for that purpose, but they are always in motion; and the membrane and nerve are most beautiful and delicate for conveying the impression to the brain. Odors spread with great rapidity down a stream, and fish will assemble from a great distance to a well-baited spot. Mr. Moffat tells an anecdote of eel-fishing which is, no doubt, true to the letter, of the attraction of some large lob-worms on a dark night to the fish; which seemed to have come from a long distance, attracted by the sense of smell. Asafœtida is said to have a peculiar attractiveness to trout; as much, indeed, as valerian has to cats, or aniseed for rats. From whatever cause it arises, a plain paste is not near so effective a bait as when a little gin and honey is added. Mr. Moffat evidently does not believe in gin, though the midland bottom-fishers do. Let the angler for chub or roach try both plans. Let the troller try the same stream with a fresh fish and a stale one; let the perch-fishers try a dead worm and then a live one; or let him set his trimmers with both fresh and stale baits, and he will truly find that one is taken and the other left. I was much struck with the discriminating power of fish in this respect when fishing for

hake off the coast of Waterford. We had no regular bait, which is a piece off the tail of the fish, but had to content ourselves with some pieces of salted fish, herrings, and sprats. The promise of sport was not very brilliant, though we knew that the fish were there, and could hear the dull heavy thud from the neighboring boats as the fish were struck on the back of the head with the boat stretcher. We toiled, but in vain, until a bold ling seized my bait, and was speedily in the boat, killed, and strips of his tail on our hooks, three fathoms deep. Then we were rewarded. The fresh bait were greedily taken, and we secured half a boat-load of fine fish. An old Nottinghamshire angler, to whom, when a boy, I was indebted for many valuable hints, told me that when fishing in the Trent, he used to meet an old collier, who was not only a most successful angler, but one who could lure the fish on to his hook when everybody else failed. This naturally excited the curiosity of the neighboring fishermen; and as the taciturnity of the collier equaled his skill, they resolved to find out his secret. They watched him, and found that his pastes were colored and scented; but with what? After an investigation not much unlike espionage, they discovered that a variety of essential oils, saffron, and balsam of Tolu entered into the composition of the old man's pastes, and that he changed them month by month to suit the varying appetite of the fish he angled for. As balsam of Tolu is sweet, aromatic, and of a lemon flavor, it *might* be tempting to the piscine palate, or attractive by its scent, which, by the addition of a little potash, changes to the odor of clove pink.

Fish are so apt to adapt themselves to the particular water and circumstances around them, both in color and food, that one bait will not serve for all waters nor for all seasons. The angler must study somewhat the waters he is fishing in, its color and general appearance, and adapt his gear accordingly; remembering that unusual sounds disturb the fish, and the lashing of the water with the line, letting it hang in links or hanks, will all operate against his success. The fish must not be alarmed by the sight of the angler or his shadow: neither must his footstep be heavy, or his song too loud. If he would profit by his higher intelligence, let him not outrage common sense, but remember how often instinct is higher than reason, and that the instinct and senses of a fish are not the meauest in the animal creation.

CHAPTER III.

THE ROD AND THE REEL.

Angling, we are told, is becoming more and more a science every day. Fish are becoming more wily, scarce, and difficult to catch, while the sport is becoming increasingly popular. New lines, new hooks, new bait, and new tackle are being so constantly invented, that it is difficult for the most practiced angler to become acquainted with them all, much more the fish, cunning as they are. The angler has, however, one consolation amid these new and perplexing inventions—the old skill and the old appliances have not lost their charm, and will yet secure a basket of fish when the modern patent inventions are completely at fault. A formidable list of articles is occasionally given as necessary for an angler's outfit, suggesting the necessity of a museum in which to store and label them. Anglers are generally vain about their equipment, and our grandfathers thought a particular coat of a dark color aided the sport. The materials necessary for angling will depend in a great measure on the locality and nature of the sport, whether fly, trolling, or bottom-fishing. We have seen good sport obtained with a willow rod, a horse-hair line with a bit of dried sedge for a float, when the most expensive outfit was comparatively useless for the purposes of sport. Attention to minutiæ is of infinitely more value than a mere expensive outfit. Skill is of more importance than costly appliances, though useless by itself; and even science is valueless without experience.

Of course the angler must have a rod, and on the choice of one he can exercise his taste, for they are as varied in size, weight, material, pliancy, and price as the most fastidious could wish. Any tackle-dealer will be only "too happy" to satisfy the heart's desire of the young angler, who, however, should know what he requires.

The bottom-fisher's rod should be strong and light, just springy enough to strike a fish quickly, and sufficiently supple to equalize the pressure from top to butt. Though it need not be so limber as that used for fly-fishing, it

should taper with equal precision from the butt to the top. The length depends upon whether it is to be used from a boat or punt, or from a bank. The average length of a bank rod should be about seventeen feet. In some instances a twenty-feet rod would not be too long, while half that length would be sufficient when fishing from a punt. If furnished with two or three spare tops of different degrees of stiffness and length, the bottom rod becomes the "general rod," and may be used for nearly every purpose. For roach and dace fishing, the rod must be so light and so perfectly under command as to enable the angler to "strike" with an almost imperceptible turn of the wrist.

With respect to the material. If you purchase your rod, as ninety-nine out of a hundred do, you will have plenty of choice. You may have them of hazel, ash, lancewood, or hickory, or judiciously combined with a whalebone top, according to price and finish; but let it be handy, light, well-balanced, and supple. Never have your rod in more than four lengths, and if possible never exceed three. One of three lengths with a hollow butt in which to place two or three top-pieces, will be found the best for all general purposes. It may be fitted with a spike at the bottom, ringed and fitted with two winches or reels for trolling and fly-fishing.

Exclusive of hazel, the woods ordinarily used in the manufacture of rods, are three or four varieties of bamboo cane, ash, willow, greenhart, hickory, and lancewood. Hickory has, however, begun to be considered as the rod wood *par excellence*, as it is light, strong, and solid; but for butts, it gives way before ash and willow. It will not stand boring, and after all it takes its place as the middle joint, and leaves greenhart or split bamboo for the place of honor, and the humbler woods of home growth in the grasp of the angler's hand. The first time I saw greenhart as a portion of a rod was in Limerick, and there I found it so highly thought of, that entire rods were made from it. It is a heavy wood, but extremely useful for tops, as it combines strength, firmness, and elasticity in a remarkable degree. I have seen yellow pine used for the butt of some old rods, made when hollow butts were unknown. The bamboos and canes speak for themselves. The split bamboo is jungle cane, split into narrow slips, planed, smoothed, and glued until it forms the exquisite top joint. There is a white

cane used for roach rods, for which it is admirably adapted.

The joints of the rod ought to be looked to carefully before the purchase is completed, paricularly if the rod is made of reed or cane. In order to give an extra finish and evenness to the rod, the workman sometimes cuts away a part of the bark or cilicious covering of the cane, to fit on the ferule, so that the rod is not only weaker where it ought to be strongest, but it is liable to rot from the impossibility of preventing the wet from getting in at the joints. So often has the ordinary brass joints failed the angler in the moment of his need, from this and other causes, that the spliced rod finds much favor with those who live in the country near the streams in which they ply their avocation. They are simple and inexpensive, though somewhat rude in construction. As many an ingenious youth would like to try to make his own rod, I will endeavor to explain the construction of two good rods which are within the reach of any country youth. Select a number of pieces of straight hazel, of different thicknesses, in the fall of the year, when the sap is gone, and place them in any convenient place to dry. Old Dame Barnes says an oven, but that plan is hardly to be recommended nowadays. They should, however, be turned frequently, to prevent their warping or drying irregularly. In the course of a year, or less, if the place is warm and dry, the pieces may be matched together in proportionate sizes. From the top of the thinnest cut eight or ten inches, and bind on a taper piece of whalebone with waxed thread—such as is used by saddlers is the best for the purpose. The whalebone may be cut with a long slant, to suit a corresponding slant in the hazel, or slightly split and made to overlap a tapering point. The stock and middle piece, and top, may be jointed together by a long splice, or a fished joint. If intended to remain together for the season, some saddler's wax may be rubbed between the joints, and then neatly bound with strong waxed thread. Every angler should learn to bind a splice with neatness and adroitness, in case of accident to his rod when in a remote district. The waxed silk or cord should be neatly and closely laid together, and the ends should be securely fastened. To fasten off, lay the fore-finger of your left hand over the bind, and with your right make four turns of the thread over it, then pass the end of your thread between the under side of your finger and the rod, and draw

your finger away, draw taut each of the four threads separately, and when firm and tight, draw the end close, and you have a neatly and firmly tied splice. When, however, the rod is to be taken asunder day by day, a closely stitched leather band is welted and drawn tightly over the splice, and then whipped with twine, and as the leather dries it becomes tight and firm. This forms a light, useful rod. A piece of lancewood may be cheaply and judiciously substituted for the spliced top for bottom-fishing, and the butt may be made of yellow pine.

An exquisite rod for fly-fishing may be made in the above manner, of ash for the butt, hickory for the middle piece, and lancewood or split bamboo for the top, with a whalebone top; or it may be made in two pieces, the bottom of ash and the top of lancewood. The rings should not be too close, nor the reel too heavy. Some curious calculations have been made with respect to the rings of a rod, so as to equally divide the strain, and by the whipping add strength to the rod farthest from the ferules. We may add that the reel should be placed near the end of the butt in single-handed rods—six to eight inches will be found a convenient distance. From a dozen to sixteen rings may be used, according to the length of the rod, the first of which may be placed eighteen inches from the reel, and the next twelve inches, decreasing in proportion until the end loop is reached. The last ring should be about four inches from the loop, and a longer distance on each side of the ferule. In a spliced rod, the allowance to be made for the joints need not be so great. These general hints will be sufficient for all practical purposes.

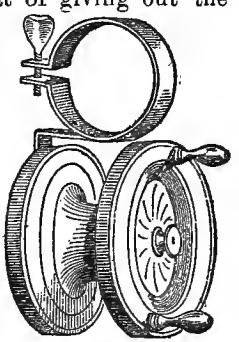
There are several varieties of fancy rods sold in the shape of bag rods and walking-stick rods. These can only be recommended for their portability. The former are made in about two-feet lengths, so that they may be packed in a portmanteau, or carried in a pocket. They are usually of cane or other light material, and are useful for light fishing in small streams. The walking-stick rod used to be a great favorite with the amateur fishermen. It is made of bamboo, and the joints fit into one another in the same manner as a telescope. A handle screws into the upper end, and a ferule to the lower, so that it may be used as a walking-stick. I cannot recommend the young angler to invest his money in so fancy an article.

The *price* of rods varies from fifteen cents to twenty dollars. A good useful rod may be bought for two dollars and a half. The cheap rods are only useful as toys for children. Rods should be kept in a canvas bag; and as damp is their great enemy, they should always be wiped dry before being put away. If they have been much used during the season they ought to be re-varnished. For this purpose coachmaker's varnish (copal) is the best. Two coats are required, and the first should be dry ere the last is laid on. If copal varnish is not to be had, an excellent substitute may be made as follows:—Spirits of wine, 2 oz.; orange shellac, 1 oz.; gum benjamin, ¼ oz. The mixture must stand a fortnight before using. Another receipt is as follows:—Gum sanderach, 4 oz.; shellac, 2 oz.; gum benjamin, 1 oz.; spirits of wine, 2 pints. When dissolved add two ounces of Venice turpentine. Dragon's blood will give it a warm red tone; Vandyke brown a rich brown color; black sealing-wax, dissolved in spirits of wine, will make a fair black varnish. In the absence of varnish of any kind, the rod may be rubbed over with *boiled* linseed (drying) oil. The practice of *painting* rods is seldom followed now, and cannot be recommended as a process for preserving rods from the attacks of insects or damp.

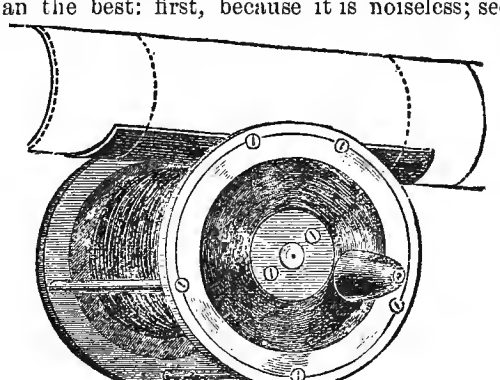
The ferules and joints of an ordinary rod call for some remark. Common rods are fitted with brass ferules, into which the ends of the upper joints fit. When the latter is of plain wood it is apt to swell by exposure to damp or rain, or shrivel and shrink in the heat of the sun or a dry wind, and, consequently, likely to come asunder in the most critical time. No joints are to be trusted but those which have turned brass sockets and brass tips to fit them. Even the "bayonet-joint" is sometimes essential, though by no means indispensable. Should the brass joints become "set," by damp or other causes, they may be released by turning them in the flame of a candle or lamp; and even the varnish may be preserved by twining a piece of writing-paper round the joint previously.

The reel, or winch, may be considered as almost an integral part of the fishing-rod, for it is useful in bottom-fishing, though not necessarily so essential as in fly-fishing or jack-fishing. The characteristics of a good reel are lightness, strength, and plainness. There are three varieties in use—known as plain pillar-reels, stop-reels, and multi-

plying-reels. The latter is sometimes spoken of as "an ingenious and valuable contrivance." Ingenious it may be, and valuable to buy, but practically worthless in every-day experience. It certainly enables a long length of line to be wound up in a short space of time; but, as it has been remarked, "with a great waste of power" when a fish is at the end of the line. Their use is much affected by those anglers who admire fancy and scientific (?) contrivances. The plain pillar-reel, with deep narrow grooves and side-plates, and a tolerably large axle, still maintains its popularity, (see page 38.) Its great drawback—that of giving out the line with too great rapidity, and over-running, and thereby choking itself, and endangering the loss of the fish at a critical period by a sudden check—has been remedied by a "check" contrivance, which, while it allows the line to run out freely when required, prevents the too rapid action of the reel when the strain has gone. This is effected in two ways—one by a tooth working with a spring in a ratchet-wheel, and the other by a friction-plate or washer. I like the latter plan the best: first, because it is noiseless; secondly,



Nottingham Reel.



Modern Reel.

it is less liable to get out of order, and when it does can

easily be repaired; and, thirdly, because it can be adapted to an ordinary plain brass reel at little cost. It is simply a plate of thin spring, a little less than the diameter of the reel, made slightly convex, and split in half a dozen places to about one-third of its diameter. This plate is placed between the reel-drum and the supporting-plate. The best reels are those in which the handle is fixed in the side-plate of the reel-drum, as by this contrivance the ugly and tormenting crank may be dispensed with. The "Nottingham reel" is a simple pillar-reel, of great freedom of working—too free in fact—and perhaps the most perfect reel is one manufactured in England. It is formed of composition, which stands wet and hard usage remarkably well. The veriest tyro need scarcely be told that the use of the reel is to hold the running tackle for the purpose of playing a fish.

CHAPTER IV.

THE LINE, TACKLE, AND EQUIPMENT OF AN ANGLER.

Important and useful as a well-balanced and carefully-constructed rod is to the angler, he is more dependent on his line and hooks for success than on the staff to which they are attached. His rod may be rough, ill-fashioned, a mere switch, or a washerwoman's line-prop, and yet not prove fatal to his sport; but an ill-conditioned line, or a badly-tempered hook will spoil all. Even the beautifully finished, tapering, silver-mounted rod will not compensate for defective gut or a brittle hook. The skillful cast, the well-timed stroke, the judicious playing of the fish, are thrown away by the snapping of a piece of steel or the sudden parting of a fine line.

Fishing lines are made of an endless variety of substances—horse-hair, silk-worm gut, Indian grass or weed, silk, hemp, cotton, either separately, or mixed, from six feet to one hundred yards long, and in fineness, from a single horse-hair to a clothes-line.

For *bottom-fishing* fine horse-hair or gut is used. The latter is more common, because it can be obtained in greater lengths, and of more uniform consistency, and of varied strength and thickness. It is made from the ordinary silk-

worm, just at the stage of its existence when it is about to spin the cocoon. This period is known by the caterpillar ceasing to eat, and it is then killed by being thrown into boiling water. The body of the grub is divided gently in the middle, and a greenish gelatinous gut is disclosed to view. This is the organ which secretes the silky matter for spinning the cocoon. This gut-like substance is taken by the extremities and extended slowly and gradually until the requisite length and thickness are obtained; the ends are then fastened to iron pins, fixed in a board the proper length, and the air and sunshine left to dry and consolidate the filmy substance. It is made of different degrees of tenuity, according to the purpose for which it is required, whether for salmon, trout, or roach fishing. The best quality is made in Spain; but a great deal is spoiled by a careless method of manufacture. Good gut should be *naturally* round, thin, and transparent. I say naturally, because there is in use a little machine, like a wire-drawer's gauge, for reducing the diameter of gut and rounding its flat and angular edges. This is useful to a certain extent, but the gut so prepared is not only decidedly inferior to that produced naturally, but is more expensive. Some gut is white and glossy—this should be avoided for bottom lines, as it is more easily seen. To obviate this disadvantage as far as possible the gut must be stained. To do this properly the gut must be moistened, and then steeped in ink, diluted with a little water—this will give it a bluish tinge. Strong coffee dregs, in which a bit of alum has been dissolved, will give the much-admired brown or peat color. The water in which green walnuts have been boiled or steeped will answer the same purpose. These colors will answer every purpose. A variety of other and miscellaneous recipes are given in the Appendix.

The winch-line, for fly-fishing, and for ordinary use in bottom-fishing, if the angler uses the reel, is composed either entirely of horse-hair or of a mixture of horse-hair and silk, or of silk alone; the latter two are becoming more common, but the former is the most durable. Silk, either alone or mixed with hair, is so apt to rot, that there is a great prejudice against its use, notwithstanding that it is stronger and more easily thrown. Patent prepared silk is now in general use for winch-lines, and is well spoken of. I have used both the silk and the silk and hair mixed,

with success; when I have tried the much-recommended hair alone, I have found it thick, clumsy, and difficult to manage.

The length of the reel-line must of course depend on the size of the river in which one fishes. On narrow rivers twenty yards will be ample; on broad rivers, or lakes, eighty yards will not be too much; but whatever length is used, the line must be so constructed as to taper about twelve feet from the end until it terminates in the thickness of salmon gut. Tapering lengths of salmon-gut may be whipped or fastened to it, and the fly-line attached direct without the "loosely-twisted hair," or triple-gut casting-line which usually forms the connection between the reel and the fly-line. This, however, has yet many admirers and many disadvantages. When tying or knotting hair or gut, it must be rendered pliant by being soaked in warm water. When the ends require to be tied or whipped they may be moistened or flattened between the teeth. When chafed or fretted they may be rubbed with a piece of India-rubber, which will make them smooth again. To make an ordinary casting-line, seven or eight lengths of triple-twisted gut must be obtained and the ends joined by the single slip-knot, wrapped with wax silk, and covered with spirit-varnish. The pieces must be so selected and joined as to taper gradually to the end, with four or five lengths of picked gut tapering to where the bait tackle is attached.

There are many plans of joining gut or hair together. The plan of whipping two ends with silk is perhaps the neatest, but the least reliable. The ends are laid by the side of each other, tightly whipped, and the end fastened off as mentioned in whipping hooks. The ordinary knot, called the fisher's knot, (fig. 1), is the one commonly used. When the long ends are pulled tight it becomes a fast knot, easily separated. It may be wrapped with silk, or the meshes may be left the eighth of an inch apart, as recommended by Mr. C. Pennell, and then carefully whipped. The advantages claimed for this plan are—that in case of a sudden strain, such as striking a large pike or other cause, the knot, instead of parting with the force used, would only be drawn closer together, and the whipping would act as a sort of buffer. The old knot on stout salmon-gut will break at a steady pressure of from twelve to fifteen pounds; but tied

with the Pennell-knot the gut will break at any other place in preference to the knot, which is a neat contrivance. The *sailor's knot* is a useful knot in an emergency, though not so neat as the foregoing. The two ends are crossed between the left thumb and forefinger, the end pointing toward the left lying at the top of the other; it is then bent backward to the other end toward the body, until both ends meet in opposite directions underneath. A simple hitch is made with the two ends, as shown in fig. 2. On pulling the long pieces a secure knot is made, which may be easily separated

Fig. 1. Fig. 2.

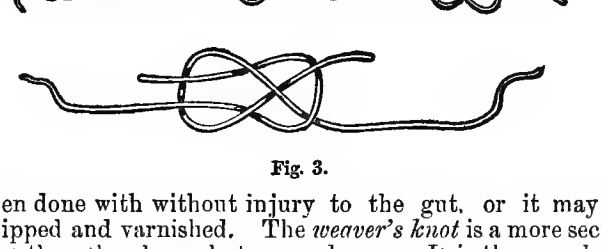


Fig. 3.

when done with without injury to the gut, or it may be whipped and varnished. The *weaver's knot* is a more secure knot than the above, but more clumsy. It is thus made:—The ends are crossed between the thumb and forefinger of the left hand, but the end pointing to the right must lay at the top in this case; the piece belonging to the opposite end is then carried over the thumb at the back of the left end, and brought between the two ends until it can be held between the finger and the thumb, the right-hand end is pushed through the loop, and the knot stands thus (fig. 3). This, though a strong knot for silk, hemp, or cotton, cannot be recommended either for hair or gut. These lines must be dressed—that is, winch-lines, trolling-lines, and salmon-lines—or else they will speedily rot, and in all cases they must be dried ere they are put away. The lines may be steeped in boiled linseed oil, in which a little japanner's gold size has been dissolved, in the proportion of one-eighth of the latter to seven-eighths of the former. If not found hard enough, a little more gold size will remedy the deficiency. Boiled linseed oil, in which a small knob of resin has been dissolved in an earthenware vessel over a slow fire,

will answer every purpose, and its antiseptic qualities are far superior. Some add India-rubber and bees-wax to the oil, and others copal varnish and camphor. In the absence of any of the above ingredients white wax is very valuable rubbed on the lines. When using any of the foregoing dressings care must be taken that they are not used hot. The superfluous dressing should be removed by passing the line between a folded piece of leather held between the fingers. Two dressings of the oil and gold size will be necessary, which should be given some months before the line is used.

Fishing hooks are made for the angler's use of about fourteen sizes, and there are several varieties, known by the name of London, Limerick, Kirby, Kendal, round and sneck bends, according to the place where they are made, and the shape they are bent. They are made also of varied length in the shanks, to suit the different purposes for which they are used. For worm-fishing, the long-shanked hook, perfectly round in the bend, so that neither barb nor point inclines inward, is the best. For gentles, paste, and grain, the short-shanked, sneck-bent hooks are preferred, as the point of the hook is more easily kept covered and secured for a longer time. Every angler should be able to whip his own hooks on to the gut or hair. It is not difficult to "whip," but it must be done neatly to be of use. The best whipping is made of fine silk, waxed with saddler's wax, that being preferable to shoemaker's wax for angling purposes. The whipping should be commenced near the bend, and finished neatly by two slip-knots, and then varnished. The best varnish for this purpose, and for tackle generally, is that made by dissolving shellac in double its bulk of spirits of wine. One application will be found sufficient. The gut or hair should be flattened and moistened previous to whipping, by being drawn through the teeth. When the hooks are wanted for bottom-fishing, the gut need not be above eight inches long, and should be furnished with a loop with a whipped fastening to attach it to the line. Too large hooks should not be used in proportion to the size of the bait. Fly-fishers approve of the round-bend hook. Hooks are numbered according to size; but different makers commence differently. Thus Bartlett's largest hooks are No. 1½, the smallest 17. Addington, on the contrary, commences at 12 and ends at 00. The num-

bers mentioned in these pages refer to the largest as No. 1. All hooks should be tried before using. If they bend easily, they are of little value, as they are too soft. If too hard, they snap suddenly. The happy medium must be chosen.

Floats, so indispensable to the young and inexperienced angler, may be purchased in all shapes and sizes at the tackle shops. Small cork floats are the handiest for general fishing, but for carp, roach, and chub, a small quill must be used (figs. 4 and 5). When fishing for

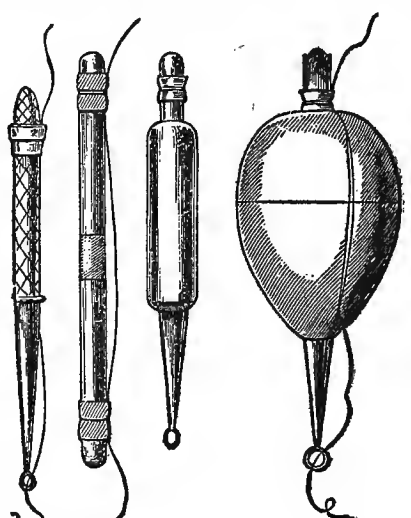


Fig. 4. Fig. 5. Fig. 6. Fig. 7.

pike with live bait, the float must be proportionately larger (fig. 7). They may be easily made; an easily made, light, and useful quill float is shown in fig. 5. It is made from two quills cut through the middle, and each cut end slipped over a plug of some light wood. A useful cement for joining floats, tipping their ends to keep out the wet, and other angling and general purposes, is made of 1 oz. of bees-wax, 5 oz. of yellow resin, melted together in an earthenware vessel; an ounce of Venetian red may be added, and about the same quantity of plaster of Paris. Let it boil slowly,

stir it until thoroughly incorporated, and then it should be stirred until it cools. A small portion must be melted in some convenient vessel for use as required. This is useful if the young angler aspires to the manufacture of cork floats. Generally speaking, a little melted sealing-wax and the tackle spirit varnish, is all that is necessary, and answers every purpose. The quills may be ornamented, as in fig. 4, with colored silk; or the quill may be dyed, or colored red; the liquid dyes sold at the chemists' shops will form the best laboratory the "natty" angler can resort to for this purpose. A little vermilion or Brunswick green added to the tackle varnish will give his floats the brilliant red or green tint he may wish. Though the plainer and unobtrusive the tackle is kept the better—green is, however, better than red. On broad streams the *tumbler* float is very useful, and it is not generally known. Its appearance is shown in fig. 8. I never saw one sold, but I have made scores for my friends, by taking out the upper quill of an ordinary rotund cork float, and adding a much longer one, with a swan shot or lead pellet fastened in the top. This pellet should be heavy enough to cause the float to lie flat on the water, and it should be sufficiently well balanced as to show the slightest nibble by standing upright. I have cast this float with a long line far into a broad stream, and indeed this is its use. It is truly a float of the Nottingham school of anglers, and a very good one it is. A few spare float caps, made by cutting quills into sections, and whipping a bit of waxed silk round them to prevent them splitting, should form part of the bottom-fisher's outfit.

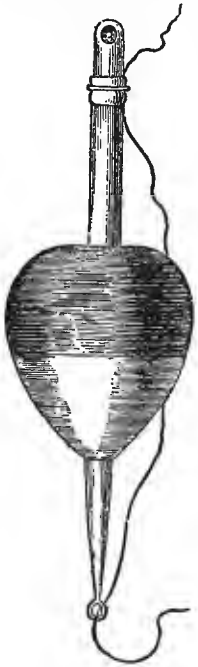


Fig. 8.

The useful little plummet is necessary to ascertain the depth of the water in bottom-fishing. Mine is made of thin sheet-lead, rolled into the oval shape of fig. 9, a small piece is uncoiled, and wrapped round the hook, and then

carefully and quietly let into the water. Another form of plummet is sold at the shops (fig. 10); the hook is slipped throughthe ring A, and the point rests on a wood plug in the bottom, B.

The panier basket, or creel, is usually made of wicker-work; and these elegant baskets known as "French made," are perhaps the most popular. The size must be regulated by the quantity of fish the angler expects to capture. Damp grass is better than any other material to keep the fish fresh and cool. An extra strap or two will be found useful to attach the water-proof coat, extra butt, or other angling paraphernalia to the basket.

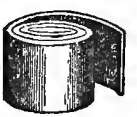


Fig. 9.

Fig. 10.

A haversack of water-proof cloth, similar in shape to those supplied to the infantry, is in my opinion one of the most useful articles which an angler can have. It is easily packed; and as the band can be easily fitted with button-holes, it can be attached to the brace-buttons on the left-hand side, or to buttons stitched on purposely. A con-

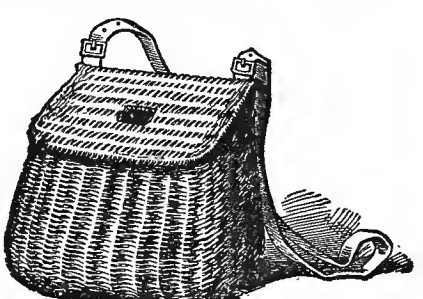


Fig. 11.

venient size is one of twenty inches long by twelve inches deep, fitted with a flap and two buttons, as shown in fig. 12, to which a short strap and buckle may be added. The interior should be divided longitudinally by a third piece, and the seams should be carefully turned in, double-stitched, and varnished. In it the angler may keep a whole variety of requisites, and on occasions a change of linen. It may

be fitted with rings or buckles, so as to permit the shoulder-straps to be taken off or put on at pleasure.

The drag-hook and cord (fig. 13,) is suggestive of anything but pleasant ideas. It is about as awkward a piece of furniture as a man could carry about with him. I would rather lose a hook and line than be troubled for an hour with one.

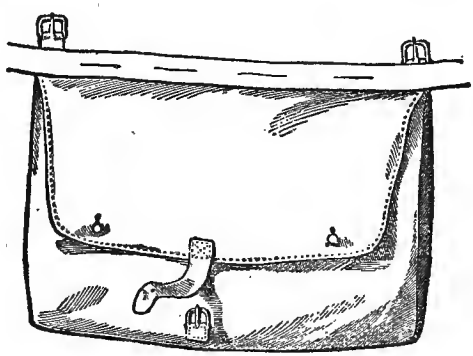


Fig. 12.

The clearing-ring is, on the contrary, useful and easily carried. It is used in clearing the line and hook when entangled among weeds, roots of trees, or other encumbrances in the bed of the river. One weighing six or eight ounces, of the accompanying pattern, (fig. 14), can be made by any blacksmith. The iron in the thicker parts should be of a pear-shaped section, the thinner and

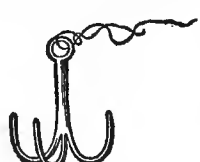


Fig. 13.

Fig. 14.

sharper edge being in the interior. A piece of cord is knotted to the upper end; it is then slipped over the line, which guides it to the obstruction, and then by pulling the cord the hook and tackle may be saved.

The discorger is a useful little article, made of wood, metal, or bone, of this shape (fig. 15). It is used for releasing the hook from the throat of a fish. The fork enables the angler to force down the hook, and so release it without the disagreeable process of opening the fish, which sometimes has to be adopted. It enables the fly-fisher to prevent his flies being mangled, ruffled, and damaged. The disgorger can be easily made by an ingenious boy out of the handle of an old spoon. A hole drilled in the handle enables it to be attached by a piece of twine to the button-hole.

The gaff is a large, sharp, deeply-barbed hook, similar

Fig. 15.

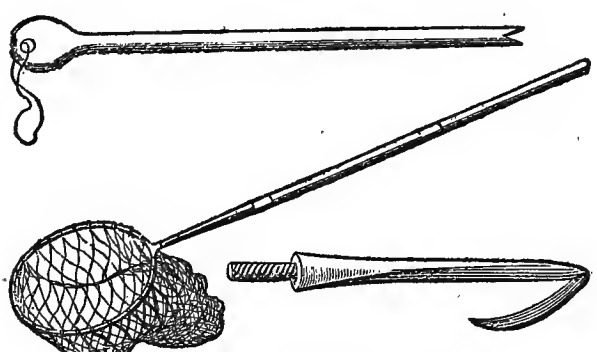


Fig. 16. Fig. 17.

to a large fish-hook, screwed in or fastened to the end of a proper piece of wood, which may also be used for a landing-net. It should be well tempered, and is indispensable in landing large fish where the bank is high, or where the landing-net cannot be easily used. There are several varieties sold.

The landing net should be made of jointed brass, for the convenience of packing. Where the bank of the river is steep, or in fishing from a boat in a lake, it is indispensable. The handle should screw on, and if in two pieces, so much the better. I should be so arranged as to admit of a "fly retriever" (fig. 17). Mr. Parker, an English gentleman, has invented a modification of this apparatus, which shuts up

like a knife. The inner edge should be sharp, so as to cut away the branches and twigs overhead in which the line or fly may become entangled. The net itself should be so fine as to enable the angler to secure minnows with it, and so answer the double purpose of a landing and a minnow-net.

The angler's pocket-book or wallet is a very useful article. The one I use is about seven inches long by about five wide, and it opens like a tailor's pattern-book; it has numerous pockets. When open it presents the above appearance (fig. 18). The covers are made of thin mill-board, and the divisions of card-board, glued to a section of oil-skin cloth, and lined with black linen, etc., fitted with elastic bands, and bound with military braid. A few parchment strips are stitched in the center, as shown.

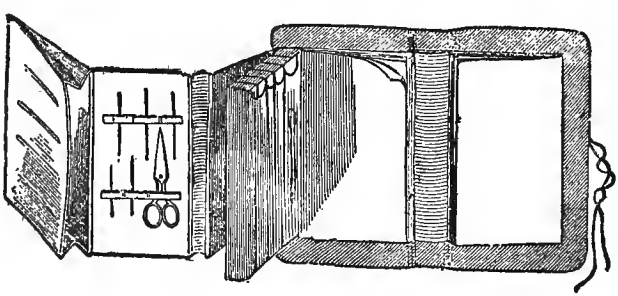


Fig. 18.

When closed it all rolls up, and is fastened by a strap or tied band, at the option of the angler. It will contain scissors, knife, pliers, wax-floats, hooks, gut, hair, waxed silk, thread, barley, needles, fly materials, though it is better to keep these things separate in a similar case to surround the fly-box. If deluded into the idea of keeping flies in a book, you will regret it. An excellent substitute for the book above described may be made from one of Parkin & Gotto's prize writing-cases, which are English-made, refitted by placing a few strips of parchment where the blotting-paper is. It forms a handy water-proof book, and has the advantage to the young angler of being cheap. Our book was suggested by, and is a modification of, this book. Fig. 18 shows a winder for six bottom lines in the center.

The minnow or live-bait kettle (fig. 19), should be of tin, and fitted with straps to go over the shoulder. A second lid, perforated, should be added, with a hand-net to take out the bait, which otherwise are not improved by the hand of the fisherman rubbing the scales off. The live-bait kettle is used in trolling for trout and pike, and may be purchased at the tackle-shops, but see that it is fitted with straps.

A pair of waterproof stockings will be found useful; but if not obtainable, two pairs of stockings should be worn, and the boots made as waterproof as possible. The best

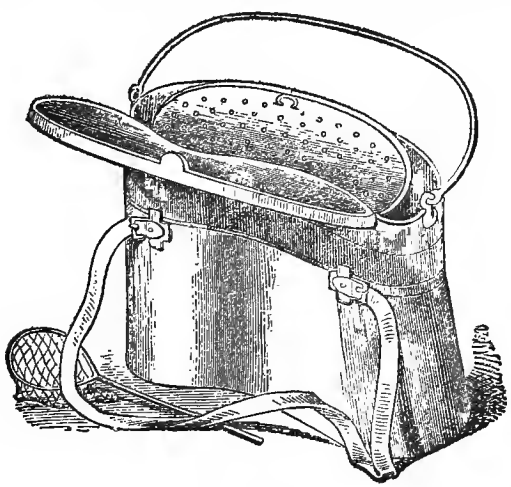
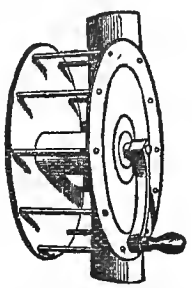


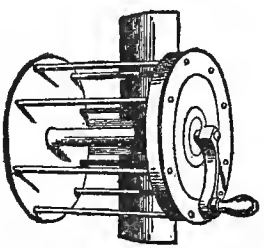
Fig. 19.

antiseptic waterproof material I know as a dressing for fishing and shooting boots was given in one of the magazines some thirty years ago. It is composed of three parts tallow, one oz. yellow resin, melted in a pipkin, and rubbed into the boots when just warm. The soles and uppers to be treated alike until they will soak no more. At first it will slightly stain the stockings. If a good color and polish is desirable, a little bees-wax dissolved in turpentine, and mixed with a little lamp-black, may be well rubbed in, and when the turpentine has evaporated the

boots will be brilliant enough to charm the fishers, and be warm and comfortable, besides lasting twice as long as they otherwise would. Curriers' "dubbing," in which a little resin has been melted, will answer as a substitute, but it is not nearly so efficacious as the above invaluable mixture.



Common Brass Reel



Brass Reel with Friction Plate.

Bait boxes for gentles, flannel bags for worms, a small box for paste, or what is better for this purpose, a piece of oiled silk, pieces of thin lead, or a box of split shot, are adjuncts which the young angler will have to attend to. Extra lengths of gut, lines, a spare float, float caps, swivels, gimp, etc.

BOTTOM-FISHING.

CHAPTER V.

POINTS TO BE OBSERVED.—STRIKING, HOOKING, PLAYING, AND LANDING THE FISH.

Thousands of men, however ardent their passion for more noble sport may be, must content themselves with the humble but interesting pastime of bottom-fishing. It is not every one, however keen may be his appetite for sport, that can indulge in frequent visits to the running, brawling trout stream, and still less frequently to the salmon rivers. If he fishes at all, he must fish in the smooth, sluggish waters which are nearest at hand, and a very respectable substitute it is to the town-immured sportsman. A fly-fisher can roam where he pleases with his rod, creel, line, and flies; but though the fly-fisher may require more skill, the bottom-fisher requires more art. He must, if he wishes for sport, take a thousand precautions, and, like a skillful general, have a thousand in reserve. He must choose his ground with judgment, and prepare for his campaign with foresight and skill. The attractive ground-bait must prepare the way for the irresistible and tempting morsel which is to follow, and reward the patient angler for his trouble. To do these things well requires some knowledge of the habits of the finny tribes, their haunts, the most attractive baits, and those best adapted for the season.

His rod must be strong and light, and should have one or two tops in reserve, so as to adapt it to the various kinds of fish. One of the best bottom-fishers I ever met always carried an extra joint with his rod of stout bamboo, which was fitted at the bottom with a stout ferule and brass cap tapped to hold a spud, drag-hook, gaff-hook, or landing-net, while the upper end would fit the lower part of his rod,

when necessary, by unscrewing the ferule, and give him a twenty-feet sweep of a broad river. His rod consisted of four lengths, each a little over four feet long, light, but strongly made. This will answer for ordinary purposes, but when fishing for roach, the rod should be lighter than is necessary for any other species of river fish.

There is some difference in experience and practice as to the use of a winch in bottom-fishing. For my own part, I have not found it essential, though always useful, if only to shorten or lengthen the line. A good plan is to have a rod ringed, and attach a small spring swivel (which may be bought at any fishing-tackle retailer's) to the line, so that it can be brought down to the lower rings at once, if necessary to shorten the line. This has the effect of equalizing to a great extent the strain upon the rod, though not to the same extent as the winch.

The lines used for bottom-fishing are those made of gut, which should be as fine as possible, consistent with strength. Some roach fishers use a single horse-hair for their bottom lines, though a fine silk-worm gut is equally as good, and infinitely more reliable. The foot lines must, however, be of the color of the water; light green is perhaps the best general tint, and best adapted for clear water, as it resembles a film of confervæ, and the mode of dyeing it is elsewhere described. They should not be left white, and it is of great importance to have one or more foot lines stained of a reddish sandy hue for use after a flood. For roach fishing the line should be of gut. For perch, a well-plaited horse-hair line is the best, and many anglers use this as a reel line for all purposes, and vary only the foot line. The line should be weighted carefully and neatly with split shot, or what is equally as good, fine strips of the thin lead with which tea chests are lined, and which may be obtained of any grocer. These strips are handy, and can be easily wound round the lower links of the line; and are more readily adjusted, and not so liable to injure the gut as split shot, which have an awkward knack of breaking, nipping, and pinching the line. It is also more convenient to carry, less liable to be lost, and can be taken off the line with less trouble, and what is more important, with less liability of damage to the line than the shot.

No hooks, as before mentioned, should be used without being carefully tried. They should be whipped on to the

line as neatly and as delicately as possible with slightly-waxed silk the *color* of the *bait* intended to be used. The whipping must be neatly done to be successful. Hooks for gentles, greaves, paste, and grain should be sneck-bent, short in the shank, and may be whipped to the bend of the hook, so that the bait may readily cover the wire, and not slip off easily, which would be the case if the long-shanked and straight-bent hooks were used. The latter, however, are the best for worm bait, as they enable the worm to be threaded easily, while the bent hook is apt to injure the bait, and render it less lively in the water.

Some bottom-fishers, particularly those who have been in the habit of fly-fishing, seldom use a float, and talk learnedly of their quick eye and sensitive touch, which enables them to detect a bite in a moment, and strike their fish. The young beginner, however, must have a float, though the smaller it is the better, except perhaps for barbel fishing. Apart from the indication of a bite, or even a nibble, it shows when the bait drags the bottom, or has caught a weed. The ordinary float should never be allowed to drag in the water, but should sit upright, and in smooth water should have the point of the quill just above the surface. Quill floats are the best for roach and carp fishing, and cork floats are fancied for perch, tench, bream, and barbel. The line should invariably rise perpendicularly from the top of the float, so as to enable the angler to strike promptly. Numbers of fish are lost through carelessly allowing the line to lap over the float in coils, or hang in the water, while their floats are slanting or dragging, and their baits are being nibbled off.

To insure your float sitting nicely, two things must be attended to: You must ascertain (if you do not know) the depth of water. For this purpose a plumb is necessary, and one made out of a coil of "tea lead," before mentioned, is the best, as it can be lapped into a flat shape, which is less cumbersome for the pocket. Place the plumb next on your hook, and when it sinks the top of your float to the surface of the water, you have the exact depth. If you are fishing for gudgeons, tench, or barbel, you must fish close to the bottom. If for roach, chub, or carp, from three to six inches from it. Your float must be moved accordingly down the line, and fastened in the ordinary way with a quill float-cap. See that it is leaded properly, and stands upright

in the water free from all obstruction, and ready to yield to the slightest nibble; and if an ordinary made quill float, examine it carefully to see if it is likely to admit water into the quill, and so render it less buoyant. A little white wax will at once stop any crevice or fissure. One thing the young angler must learn quietly and by experience; and that is to strike his fish promptly with a sharp but slight jerk of the wrist. He must not do it violently, for if he does, he will disturb and alarm the fish; neither must he wait for the nibble until the bait is gone or the fish hooks itself. The wrist must be turned toward you, slightly to the right, with just sufficient force to lift the bait a few inches. Many a day's fishing has been spoiled, good tackle destroyed, fish tormented or rendered shy, by the violent exhibition of strength in this neat and essential portion of the angler's art.

The fish being hooked, my dear young angler, be merciful in your strength. Do not be flurried, and jerk the fish out of the water as if your life depended on your sending it into the middle of the next meadow. If your tackle is well chosen, you may lift your fish, of small size, out of the water without any struggle, or a very short one. Sometimes you may alight on a shoal of small-sized fish, and then it will be necessary to pull them at once to the surface of the water, and allow them no play. This is particularly the case with perch, for these bold gentlemen have strong mouths, bite boldly, and are not easily frightened by a bit of gut or horse-hair. Out with him at once, if possible, so that he may not give the alarm to his companions. Chub and barbel, and other large-sized fish should be allowed a little play; the line must be kept tight to prevent him going just where he pleases. He will soon begin to tire, and show by his languid and enfeebled fins that he is succumbing to the influences and skill brought against him. Then bring a taut and shortened line to bear on him; show him the butt-end of your rod, and bring his head above water. Be careful, for he may want another swim or two, and if so, indulge him, or slip the landing-net under him; let him drop into it, and try another.

Sometimes when fishing with fine and delicate roach tackle you may hook a large fish, which will try all your skill. Your temper must be as smooth as a placid lake, and your wrist as firm and as pliable as a fly-fisher's ere

you can land the monster who is enthralled by the single horse-hair line and diminutive hook. It will require all your skill and address, but it may and can be done, and you may boast of the event with real pride.

The bottom-fisher requires no little patience, a tolerable selection of baits—the best of which I have endeavored to describe; and ere I pass to the consideration of the baits, let me dwell for a few minutes while I show, as clearly as I can, how to bait a hook with a worm or worms. You must first rub the ends of your forefinger and thumb of both hands in sand, bran, or dry earth, to prevent the worm slipping, or otherwise you will have great difficulty in properly adjusting the slimy gentleman on the hook. Insert the point of the hook at the head of the worm, and work it gently over the bend, and up the shank, and along the line, until not more than a quarter of an inch or so hangs beyond the point of the hook, which must be left to wriggle about. Large worms as a rule should have a fourth of their length left loose; small worms should have the barb of the hook close to their tails. When dead, the worms should be replaced immediately. It is a waste of time to attempt to entice fish with a dead worm. Particular attention must be paid to the worm in putting it on the hook, so that the skin may not be perforated by the barb when once in the body; and the tail of the worm should incline inward, so as to prevent, as far as possible, the worm working the point of the hook through the skin. Fish are quick in detecting the fine point of the hook.

If the worms are small, two may be placed on the hook; and this plan I prefer as a rule in practice, as it makes the bait appear more natural, and of course more deadly. It may be done in either of these two ways: The larger of the worms may be threaded in the way above described to about half of its length, the hook may then be brought through, and the worm passed on to the gut. A smaller worm is then chosen, and the hook inserted at such a distance from the head as to bring the point of the hook within a quarter of an inch of the head of the worm. The upper worm is then brought down to meet the smaller worm, and the tails entwined within the bend of the hook. A second plan is to insert the hook about midway down the worm, and bring it out a little below the tail; and the second worm should have the hook inserted half an inch below the tail, and brought

close to the head. By this plan there are two ends to wriggle and make the bait appear more lively. I cannot too strongly impress the young angler with the necessity of baiting his hook with care, for on it his success will in a great measure depend. When I come to speak of bottom-fishing for trout, I shall mention two or three other plans of worm-baiting; but the young angler will find the above sufficiently alluring for his purpose.

CHAPTER VI.

THE BOTTOM-FISHER'S BAIT TABLE.

Those baits are the best and the most killing which are natural to the season. Children do not look for cherries on the trees in February, and fish seem to know that seed and grain ought not to be coming down the stream in April. Sometimes a strange and extemporaneous bait will succeed when an ordinary one will not; but it is the exception, not the rule, and depends for success on the caprice or gluttonous instinct of the fish, which may vary day by day, according as it is surfeited or otherwise by its ordinary food.

1. Worms stand first in the bottom-fisher's list, and of these the *dew, twatchel, or lobworm* is the largest, and the best bottom bait for large barbel, grayling, perch, trout, bream, or eels, nay, even the lordly salmon does not disdain to take one sometimes. You may find them in the gardens or in the fields by digging at any time; but they may be found by thousands at night, or in the early morning, in fields and meadows after a fall of heavy dew or rain. It seems a ridiculous, but none the less a good plan, to search for them by the light of a lantern. In dry weather they sink deep into the earth; but in that case, if you throw a quantity of wet straw on the surface of the ground they will come out. A strong solution of salt and water, or water in which walnuts or their green shells have been boiled, will, it is said, bring them speedily to the surface; but it is better to dig for them in moist mold or in the bottom of a ditch. Sometimes a stick or a poker thrust into the ground and well shaken will make them come to the surface.

2. *The blue-head* is a common worm in Ireland, and not infrequent in England. Its head is blue—its body

of a cream color, without nobs, and the skin of its belly feels "sharply rough" to the finger. It scours readily, and lives long in the water. It is an excellent bait; salmon and trout bite at it readily, and few river-fish will pass it by. They are sometimes to be found in commons, in rich garden mold, round the roots of plants. It must not be confounded with the marsh-worm, which is only fit for ground-bait.

3. *Brandlings* are found in old dung-hills, and are capital worms. They are striped across the back with red and yellow. They should be well scoured in a piece of old netting, or rag.

4. *Red-worms.* These pinkish-colored, thin ivory worms, common in old tan-heaps, are a good tough worm for small fish. They are also found in old dung-heaps, where the manure and soil meet, and occasionally by the side of ditches. They must be lightly handled, and the hook must be small-sized and light in the wire. They are the best bait for gudgeons, and perhaps the best general bait for all fish.

5. *Blood-worms* are found in the excrement of horned cattle. They are also found in farm-yards. They are about an inch in length, and are a killing bait if two or three are put on the hook together, for small fish.

6. *Tag-tail worms* have the recommendation of being used as soon as found, but they are by no means equal to the foregoing. They are found in marly banks and in strong clayey soil. They may be known by their light red color and yellow tail.

Slugs and other worms have been recommended, and may have been used with success under exceptional circumstances, for barbel, chub, or eels; but the foregoing worms are much better.

Worms may be preserved and scoured in several ways. I always adopt the old-fashioned plan of keeping them in moss in a large unglazed earthenware flower-pot. The moss must be clean picked, damped, and the worms placed at the top, and a little cream or milk sprinkled over them, and then set aside in a cool place. If the worms are not for immediate use, some well-rotted dung and rich mold is placed at the bottom of the pot, and the moss kept damp. Worms treated in this way quickly scour, are lively, and long-lived in the water. Every day or two they are looked

over, and the bruised and sickly ones thrown away. A little bole Armenian is said to improve their toughness. This plan will be found efficient, and cause but little trouble. Mr. Blaine, in his "Encyclopædia of Rural Sports," mentions a plan of soaking a clean coarse hempen or linen cloth in water, in which some mutton suet has been boiled. When cold, put it into a tub with the worms, and some fresh mold, and tie over the top a linen cloth to admit air. Keep the whole in a cool situation, and the worms will keep lively and fit for use for many months. I have never tried this plan. The first mentioned answers every purpose, and enables the angler to keep the different sorts of worms separate.

If worms are wanted quickly, they may be washed and placed in a little chopped horse-hair. After an hour or two they may be dusted with finely-powdered bole Armenian and a little alum, and then placed in a bag with moss, impregnated with the same mixture.

Scouring renders worms tough and lively on the hook, Dead worms are utterly valueless as bait.

7. *The maggot or gentle* is an excellent bait for roach, dace, carp, bream, and chub in the summer and autumn months. They are procured in large towns at the fishing-tackle shops, and in the country a supply can generally be procured at the tallow chandler's. Perhaps the best for angling purposes that can be procured are those obtained by hanging some animal substance, such as a sheep's head or bullock's liver, in a place where flies abound, and when it is fully blown, place it in a tub half full of bran and sand for the maggots to scour and clean themselves. They are scoured and made tough by keeping them for three or four days in a mixture of sand, meal, and bran. They must be kept in a cool place, in a vessel filled with wet sand away from the rays of the sun. If gentles are wanted in the winter the same process must be followed in the latter part of November, and when the piece of meat or game is well blown it is laid in a tub or long box (the latter is best), half-filled with dry pulverized cow-dung and sifted mold moistened. The same compost is sifted over the carcass, and gradually pressed down. The box may be then buried in the earth, or placed in a cool situation. The gentles can be taken from one end of the box without disturbing the others. When turned into the chrysalis state, they are

useful for grounnd-bait, and sometimes roach will bite at them. The gentles obtained at a knacker's or bone boiler's are nasty things, and should only be used as ground-bait. They are truly carrion—disagreeable alike to carry and handle, eating their way through the stoutest bag.

8. *The caddis-worm* or straw-bait. This curious worm, which is found at the edge of most rivers in its curious stony shell, is the larvæ of some of the angler's best flies. I have found it an excellent bait in every stream where it is found in England. There is scarcely any other bait about the merits of which so many diverse opinions exist. My opinion of its merits has been strengthened by many angling correspondents. Caddis may be kept in a bag, if dipped frequently in the water to keep them moist. One of these singular grubs has been added with killing effect to an artificial fly.

Two of these baits are generally placed on the hook together. The hook must enter close under the head and be brought out at the end, if two are used. If the hook is a very small one, one only may be used; but it is necessary that the hook and shank should both be covered. Artificial caddis are sometimes used; and in the chapter on "Flies, and how to Dress them," a plan of making them is described. The above remarks apply equally to all kinds of grubs.

9. *The meal-worm* is a sort of grub common in old mills where meal has been kept: it is not unlike, if not identical with, the weevil of ship-biscuit. It is much liked by trout and other fish; requires no scouring, and may be kept in meal.

10. *The wasp-grub* is a soft milky grub, taken from a wasp's nest. They require to be toughened by being placed in an oven to be half baked before use. They may be kept in a jar in a cool cupboard. Trout bite freely at them, and it is said that a too frequent use of them spoils the fishing for any other bait.

11. *Salmon spawn.* We are told that this is a poaching contrivance—illegal and unsportsmanlike. It may be bought preserved ready, and has a killing reputation. It is difficult to prepare, as it is apt to become too hard or too soft. One recipe says that it should be carefully washed with cold water, and separated in a delicate manner from all skin. Lukewarm water must be added, until it is perfectly clean from all film. The last water must be cold.

The roe must then be left to dry in a hair sieve. Two ounces of salt are then added to every pound of roe, and well mixed with the fingers. The brine is then allowed to drain off, and the roe is spread on a shallow dish near the fire. The dish must be placed in an oblique direction, and the roe stirred with the handle of a wooden spoon, until each ovum has dried separately. To have each ovum perfectly clean, separately salted and dried, is the secret of the preserving it. When cool, pot it, and keep the air from it with melted suet or lard—covering the pots down with bladder or oiled silk. Another recipe states that it should be boiled for about ten minutes, and then washed, picked, cleaned, and dried. Two ounces of salt, and a quarter of an ounce of saltpeter, must then be mixed with it, and spread before the fire until it becomes quite stiff. It is then potted as above. Trout take this bait greedily; chub and roach bite at it freely. It is threaded in single grains on the hook until it is covered—the finest grains being reserved to cover the barb and point of the hook. A good plan, too, is to string the grains of roe, like beads, with a fine needle and pink thread, and then wind them round the shank and head of the hook, reserving a fine one for the point. When soft and broken it may be mixed with a little bread paste, as salmon roe paste.

12. *The cockroach.* Trout and other fish bite at cockroaches at a mill-tail, from whence they might be supposed to have come.

13. *Greaves*, familiarly known as "scratchings," are the refuse of a tallow chandler's melting-copper, pressed into large cakes. The best are, however, those made by the lard "renderers" and refiners. To prepare it for use, it is broken up and scalded. The whitest portions are chosen for the hook, and the others are used for ground-bait for barbel, chub, etc.

14. *Boiled malt, barley,* or *wheat,* is a famous bait for roach in the autumn, and is far better than brewer's grains, which should only be used for ground-bait. If the angler has time to prepare the grain himself, wheat should be steeped all night in plenty of lukewarm water, and then placed in a warm (not hot) oven for several hours, until the skin cracks and shows the white fecula. Malt, which appears to be a more attractive bait than either barley or wheat, is prepared in a similar way; but for success it should

not be allowed to get too soft, and should only just show the inside. The plumpest grains should be chosen for the hook, and the rest used as ground-bait. In September and October I have found this a more attractive bait than any paste. Sometimes the husks are removed, and the flour kneaded to a fine paste. Some English anglers speak well of boiled pearl barley as a bait for roach, and during the past season I have tried it with success in English waters.

I never met with a bottom-fisher who was not "great" in the matter of paste, and able to sing loudly in praise of this or that compound, either of his own invention, or of some brother-fisherman's.

Plain paste is made by kneading moistened bread crumbs between the fingers until it becomes adhesive. If the stream is a running one, a little lint or cotton wool may be mixed with it to prevent it being easily washed off the hook. A small portion of vermilion is sometimes added to give it a pink color. Stale bread is used for roach-fishing, and new bread for chub-fishing. It is necessary that the hands should be perfectly clean, or else the fish will not touch the bait. It is best to carry the bread to the river side, and make the paste just before using, as it has a tendency to turn sour.

Greaves paste, for barbel, is made by dipping white bread into water in which greaves have been boiled, and then kneading it. The hook should have a small bit of greaves on the point when this paste is used.

Sweet paste is made by adding honey to bread crumbs, and then working it to a proper consistence. I think highly of this paste for carp, chub, and roach, and it is improved by adding a small quanity of gin.

Cheese paste is made of rotten cheese and bread for chub; for roach, new cheese and stale bread.

Adhesive pastes are made of size obtained by boiling parchment or white leather cuttings in water. Useful only in rapid waters.

With respect to baits, almost any insect or small reptile may be tried when ordinary baits fail, and succeed in deluding occasionally the most cunning fish.

Ground-baits are nearly as varied as the baits themselves, and should be freely used from twelve to fifteen hours, and even twenty hours, before you fish the pitch.

Meal ground-bait is useful for chub, dace, roach, and

carp in deep waters. Bread, oatmeal, and bran, must be well kneaded together with a little water until they will form tough balls. Should be used with the sweet paste.

Boiled rice is a good ground-bait when fishing with gentles, and one grain placed nicely on the hook will sometimes attract a roach.

Raw rice and large grained white sago, the latter especially, is useful when fishing with boiled malt.

Bread and clay, or bran and clay, kneaded together, and a large stone placed in the middle, is a useful ground-bait when fishing with paste. To the bran and clay gentles or worms may be added, and thrown into the stream; and as they creep out, the fish take them, and are encouraged to take your finer bait. In deep water, this is one of the best ground-baits.

Greaves boiled and mixed with clay or bran are the proper ground-bait for barbel. Wet sand and carrion gentles, and chewed bread, are all good ground-baits.

When fishing with worms, clay, malt-dust, and bran may be mixed together with some chopped worms, and a little bullock's or sheep's blood may be added and made into tenacious balls.

The young angler should recollect that his object is to attract the fish, and not to feed them, therefore when fishing he should use the ground-bait sparingly. It should always be of the same nature as the baits to be used, but of inferior quality. Without the use of ground-bait in sluggish streams, the chances of the angler's success are but small.

CHAPTER VII.

What to fish for, and Where.—The Haunts of the Minnow, Loach, Ruffe, Gudgeon, Bleak, Dace, Roach, Chub, and Bream.

In suitable waters nearly every description of fish may be caught by the bottom-fisher if he provides himself with suitable tackle, uses it in the best manner, and in the suitable season. To be successful he should know somewhat of the haunts of the fish, their method and time of feeding, and, above all, when they are in season. During the pres-

ent year I have been repeatedly annoyed by anglers taking fish when they were not only unwholesome, but spawning, and thereby destroying the poisonous fish and their future sport. I have already touched upon the general habits of fish—their sense of hearing, sight, and smell (Chap. II.;) and to the remarks there made I would again direct the young angler's attention, ere I touch upon the various kinds of fish which will afford him sport with his rod, line, float-bait, and sinkers. Following out the plan I proposed at the commencement, I begin with the smaller fry, which are easily caught, and though not of much value in themselves, are useful as baits for the larger and more valuable fish.

The minnow is well known to every schoolboy who has seen a rivulet. Delicate in shape, rapid in motion, and moving in shoals, they are at once bold, gregarious, and voracious feeders. For the purposes of the troller and spinner they are usually caught with a hand-net. A bent pin and a small red worm enables a boy to catch any number. They will take a crumb of bread or a gentle voraciously. If a worm is used, tied to a horse-hair, they may be pulled out by the dozen. Several of the old writers speak of minnow as forming a nice dish when caught in sufficient numbers, but they are more trouble than they are worth.

The loach is not a pleasant fish to look at. His bullet head and heavy shoulders give him a clumsy look. They bite freely at a worm, and do not despise gentles.

The ruffe is a fierce-looking, bold biter, somewhat like a small perch. They may be caught during the whole of the summer months, and afford excellent sport to the young angler. Wherever one is caught there will be plenty of others. They lie in rather deep water, in a hole close by the eddying of a stream. You may ground-bait with clay balls, in which bits of worms have been rolled. Though small, they form a respectable fry.

The gudgeon is a better known fish, and one that is esteemed a choice morsel, even by gourmands. They bite freely, and there are but few streams of any size where he does not abound. I have caught them by the dozen in canals and in the rivulets running into larger streams. There is no difficulty in getting a respectable dish of this fine-shaped and excellent fish, which are largely in demand for live bait for jack, and occasionally for trout. They are

very prolific, and are supposed to spawn about May. The tackle adapted to catch them is a small light rod, a fine gut or single hair bottom line, a very small hook, a small brandling worm, a bit of paste, or a gentle. A light quill float is generally used. A paste in which a little hemp-seed has been mixed has been used and recommended as a ground-bait. In all running streams and clear water the grand secret of catching gudgeons is to rake the bottom of the stream so as to stir up the mud and discolor the water. The gudgeons fly to where they suppose their food to be, and with a small well-scoured red worm, lightly threaded to a small hook close to the bottom of the stream, they may be caught by scores. If the worm is too big, use only the head. When one spot has been fished, repeat the process in another place. Gudgeons are too fond of "nibbling," but otherwise they bite freely. There is another mode of angling for gudgeons, but it is only excusable when in a hurry for "live bait." The flat plummet is fixed just to an ordinary perch hook, and attached to a horse-hair line. Two or three hooks are suspended above the bullet, in the manner of a "paternoster," and firmly looped in the manner of "droppers," as described in "fly-fishing." These hooks are baited with worms as before mentioned. The plummet is let down to the bottom in a promising part of the stream, and the hooks are suffered to lie on the bottom or float about in the running water. If the line be held tight, every bite will be perceptible, and the fish caught, if the youth is not in too great a hurry to strike. Epicures in all ages of the world have admired the gudgeon when fried crisp on butter and bread crumbs, and served hot with melted butter for sauce.

The bleak is found in the majority of clear streams, where there is a good current. They spawn in May or June, and are soon as active as ever. Small as they are, they are active, and shine like silver. In fine weather they play on the surface of the water, and will bite freely at a small brown fly, and, indeed, there are worse sports than whipping for bleak on a summer's evening with a light rod, fine tackle, and half-a-dozen flies attached to eight or nine feet of gut as droppers, on very fine hooks. When the weather is colder, the bleak may be taken by a paternoster line, made somewhat similar to that described in fishing for gudgeon, but without a bullet. The hooks should be baited

with gentles, and the angler should choose a spot near a rapid run of water, where the current flows quick from a sluice, and near the whirling eddies of a mill-tail. They bite freely, and when gentles are scarce a little bit of white leather from a kid glove may be placed on a hook on which a little artificial fly has been whipped. The float, if one is used, should be light and small. They are cooked similar to sprats, which they much resemble.

The dace, like the minnow, belongs to the carp tribe, and is equally reckless. He is somewhat elegant in shape, and he is one of the best fish for the young angler. He is not particular as to the bait you offer him; he will spring at the natural or artificial fly at the surface of the water, and take the fine red brandling, your paste, or gentle, at the bottom. The tackle must, however, be as fine as that recommended for roach-fishing. He varies somewhat in size, and when large will tax all the skill of the youthful fisherman. He is gregarious, loves the society of his fellows, and delights in the scours and rapid currents of most rivers. He loves the free moving waters of a mill tail, or the smart stream of a narrow arched bridge. The junction of two streams affords him a suitable home. The dace spawn early in the spring, and in May they are in condition. They seem almost to fly through the water, so rapid are their movements. They will bite freely at the artificial red and black palmers or spiders, particularly if the point of the hook is tipped with a live gentle. They afford good sport with the natural fly, as described in "dipping." The flesh-fly, house-fly, or ant-fly may be used. In hot weather they are to be sought for in deeper water. When bottom-fishing for dace, use ground-bait of a hard tough nature. Oatmeal, browned over the fire, mixed with treacle, and then made up into small hard balls, I have found the best. In hot weather they bite freely in the morning and evening; in colder weather in the middle of the day. For practicing the young angler in the details of the gentle art, I think dace fishing holds the very highest place, though he does not rank high in the kitchen.

The roach has long been the shy object of the bottom-fisher's art, and roach-fishing demands special skill and special appliances. The line must be of the finest gut, stained to the color of the water; the hook must be of the smallest, with a short shank, and whipped with fine silk of

a light pink or white color, and attached to a link of a single hair or very fine gut. The sinkers should be fixed far above the bait, which should be but an inch or two above the level of the ground. The float should be of the lightest quill, and so weighted that only the tip appears above the surface of the water. The rod should be long and light, and those made of Spanish cane are the best I have seen, as they permit the fish to be delicately and promptly struck. When roach-fishing, the water should be plumbed and ground-baited the evening before. If about to fish with paste, the meal ground-bait before described will be the best. The oatmeal and treacle ground-bait, described in dace-fishing, may also be used with effect when angling, if made into balls of a small size, and thrown near the float. Roach do not generally lie in rapid streams, but in the autumn months—and they should not be fished for at any other time, as they are out of condition until the middle of July—love the gravelly bed of a softly-flowing deep stream, along which the insects, grain, or other food is gently carried along, close at bottom, but not touching it. Long as the line may be, and it is sometimes necessary to fish eight or nine feet deep, there should not be more than eighteen inches or two feet between the tip of the float and the end of the rod. Care must be taken, from time to time, to see that the bait is on the hook, and that no part of the hook is exposed. Early in the spring I have caught roach with a fine red worm, but, as a rule, I prefer waiting until August before I try for this subtle and shy fish. I find, in August, they will bite early in the morning and late in the evening, at gentles, or at salmon roe, though I seldom use this seductive bait. Caddis and gentles, when easily obtained, are taken freely if the ground-bait has been attended to. In the heat of the day, and during the evening, the roach may be attracted by the yellow-fly, so common in cow dung, if carefully "dipped" on the surface. I have taken them with a blue-bottle, tipped with a gentle, frequently; but the angler must be out of sight, and make no noise. As the autumn progresses, the best bottom bait will be found to be boiled malt, wheat, or pearl barley. If the former is used, it must be so placed on the hook that the point and shank of the hook is hid, and the tempting luscious inside may be seen. If the hook, however, has a long shank, it is fatal to success with large fish. A handful of malt may be

thrown in as ground-bait, and large-grained unboiled sago, and even rice is often found attractive. It requires, however, skill in playing a roach of some size, and I have seen them frequently one pound and one and a half pounds weight caught and landed when the bottom line was a single horse-hair. The roach, like the carp, is fond of sucking at the bait, and he should be struck firmly and delicately at the slightest nibble. Pastes are largely used to attract roach, and good sport is sometimes obtained by this means. Roach seem to like sweet paste, and that made with a little honey, gin, and new bread, is often successful when plain paste fails to attract. When the fish are on the feed, a plain paste, provided it is made with clean hands, will be found all that is necessary, I have sometimes found that the addition of a little essense of anchovies to the paste have a killing effect when all other means failed. The principle of success in roach fishing, and with the majority of other members of the carp tribe, is to have fine tackle, a delicate hook, a sharp eye for the nibble, and plenty of patience. The home of the roach is on the deep side of the stream, and under bridges.

The chub is to be found in nearly all English rivers. He is a long, powerful fish, not very attractive in a gustative sense, but tolerably handsome-looking—a bold feeder when he thinks nobody is looking, and not very fastidious as to what he eats. He haunts deep holes, lies at the bottom of old walls, and likes overhanging banks. He spawns early, and is in season again about May. He has what the phrenologists call large inhabitativeness, and may generally be found in the same spot year after year. In summer weather, where no trout stream is near, the chub affords some tolerable sport. He will rise freely at an artificial fly. Red spiders and palmers of various colors seem to be his favorites. Imitate a humble-bee or a blow-fly and they will rise freely. In the evening their fondness is for moths. In dipping for them, the grasshopper, beetle, and cock-chaffer may be used, and even a butterfly will not be rejected. The rod must be like a fly-fisher's, and fitted with a winch and running tackle; for, when first hooked, Mr. Chub makes a desperate effort to escape. He, however, soon tires, and cries "enough." The best plan of baiting with live insects will be found in the chapter on "fishing with the natural fly." To the bottom-fisher the chub is

also an object of attraction in consequence of the sport he affords. He is, however, shyer, if possible, than the roach, and requires fine tackle to delude him. In the earlier months of the year the chub prefers a red worm. They are also fond of gentles and cheese paste, or little pellets of tallow and cheese, flavored slightly with musk. I may here mention, that gentles from a dead rat are held to be more killing than any others in consequence of their musky odor. The chub likes a fair-sized bait better than a small one. The spinal-cord of a bullock, if in convenient bits, will entice him, particularly if bullock's or sheep's brains have been used as a ground-bait. Greaves (see Table of Baits) are used as ground-bait, and the whiter pieces kept for the hook. The hook itself may be tipped with a live gentle, and care must be taken that the greaves will not prevent the fish being hooked when struck, in consequence of their toughness and firmness. In the very early spring he sometimes will bite at a minnow or small frog; but as the fish, when caught, is one of the worse fish, possible for the table, he is not much sought after.

The beam is a common fish in all the rivers that fall into fenny counties, or flow through marshy ground, They spawn late in June or early in July, and rapidly multiply and grow to a large size. They are broad, ugly, and coarse. and have been likened to a pair of bellows. They bite freely, but they have no little cunning, and it requires the angler to be equally wary if he wishes to secure these unwieldy denizens of our broad, sluggish, still rivers. Running tackle will be required, and the hook may be a No. 8 or 9, securely whipped to a gut foot-line. A quill float is necessary, as the hook should touch or trail along the bottom. Clay and clotted bullock's blood makes an excellent ground-bait. Red worms are the best bait in the spring, early in the morning and late in the evening. In summer, gentles and salmon roe, with greaves for ground-bait, prove attractive. When the water is warm and gloomy, or a slight breeze ripples the surface of the water, the beam will bite, particularly after a warm drizzling rain. The bream have a sort of fancy for a dew worm, but he sucks it and does not bite. They must be struck delicately and at once. When he is hooked he exerts his strength, and makes for a weedy, sedgy bottom. The angler must keep him in the open waters, or else the tackle will assuredly break. It re-

quires no little patience and skill to land a large beam, and when landed, his skin is slimy, and not peculiarly pleasant. In the summer time he will rise at the natural fly. The stone-fly, and blue-bottle are his particular fancy. In the evening a moth will seduce him. His home is in the broad bends of a river, he is sometimes found with his family beneath the shade of an overhanging willow, particularly where there is a good depth of water.

CHAPTER VIII.

What to Fish For, and Where, Continued.—The Haunts of the Carp, Tench, Barbel, Perch, Eels, and Lampreys.

The carp is one of the most difficult fish to catch in the bottom-fisher's repertoire. Patience, skill, ingennity, and the most delicate and lightsome touch is necessary to hook him, and when hooked difficult of management. He is, however, much esteemed when caught, and furnishes a respectable dish to the cook. It has not fallen to my lot to catch more than three or four carp during my angling experiences, and they were taken in a pond which was full of them. I have been tolerably successful in capturing most other fish, but the Fates in this instance were against me. The tackle must be that recommended for roach-fishing, fitted to a running line, and the hook should be a No. 8. The difficulty of capturing this gentleman has suggested all kinds of fanciful baits, scented pastes, green peas, green gentles, larvæ, grains, and worms, not forgetting a grasshopper or a bluebottle-fly. The difficulty in capturing the carp arises from his sly method of nibbling away the bait without giving the expectant angler notice of his intention; for this reason I think that boiled wheat or malt would be more likely to entice his lordship to take the hook into his mouth, particularly if the pitch had been well ground-baited. When hooked he will struggle gamely; but beware of the weeds. In April or May sweet paste made with honey, with a little scent, is said to entice them to swallow the bait. Later in the year half a ripe cherry, or a green pea boiled in sugar, is recommended. They spawn at the

latter end of April or the beginning of May, and are very prolific. They will not bite in cold or windy weather, and in sunny weather they leave the muddy deeps, which they love, for the shallows; and if the angler can keep out of their visual range he may have a better chance of success under these circumstances. The carp, however, do nothing in a hurry; they like to contemplate the bait ere making their meal. You may capture carp in the night, if you like nocturnal sport; and a friend who lives where carp abounds says that he is successful with sweet paste, and he has tried the balsam of Tolu paste mentioned in the second chapter, and found it attractive. In stagnant waters, with deep oozy bottoms, and near flood-gates, the carp loves to dwell.

The tench, with its shining dark olive coat, is one of the best of the carp tribe. Its slimy mucous skin is said to heal the ills of other fish; nay, even the ravenous and cruel pike is said to respect this member of the carp tribe out of respect for its healing virtues. It is said to be one of the preventives of the plague, that it relieves pains in the head, cures jaundice, and removes inflammation in the eyes. The tench, like the carp, will live a long time out of water. It is no uncommon thing to catch tench of the weight of two or three pounds; sometimes, in very favorable situations, they are found much heavier. The angler should learn the haunts of the tench ere he fishes for him. He should know the depth of the water, and whether the bottom is a clayey, muddy, or gravelly one, for he must fish only an inch or two from the bottom, and suit his ground-bait to the bottom. If the bottom is a gravelly one, a ground-bait of clay, carrion gentles, bullock's blood, and chopped worms may be thrown in the day before, and the hook baited with a fine red worm, well secured on a No. 6 or 7 hook, and, if not successful, a wasp grub or a caterpillar may be tried. In a muddy or clay bottom, later in the year, gentles and garden slugs will be found good and attractive baits. The sweet honey paste is perhaps the best general bait. If the pitch is well ground-baited for a couple of days with the bread and clay ground-bait (page 45), and a few small pellets of the sweet paste thrown in the night before, the angler will assuredly have good sport in the early morning and evening, and all day in warm showery weather, when they will not refuse a snail. The tackle should be strong; the rod should be long if the banks are much

encumbered with weeds, and fitted with running tackle, the foot line should be of gut, about eight or ten feet long; stained a light green. A small cork float should be used. Tench are wary and careful with the bait; they do not gorge it quickly, and require time. When the float lies flat it shows they are rising with it. Then the fish may be struck firmly, and when hooked it will be necessary to prevent the fish from indulging his fancy of seeking the muddy bottom or the sedgy, weedy banks. Keep his mouth open, and though he starts spasmodically, as it were, from place to place, he will soon tire. I have only met with the tench in a few rivers, except where they were carefully preserved. In ponds, however, they are plentiful enough, and afford good sport from April to October. They spawn in the early summer, and are wonderfully prolific.

The barbel derives its name from the peculiar beard or wattles which hang about his mouth. Though not one of the best fish for the table, and in this respect is much in ferior to the tench, yet he is much sought after by anglers in consequence of the sport he affords. They swim in shoals, and love the strong current of a deep river, particularly when it runs over a stony bed. Among old piles by the side, in the deep currents of bridges, weirs, and locks, they love to lie and feed on the insects borne down by the current. The strong fins of the barbel enable him to stem the strongest current. Use worms, tallow greaves, gentles, cheese paste, bullock's blood, and pike. The best bait is the lob-worm, well scoured and lively, on a No. 8 or 9 hook, made specially. The best time to fish is at night, or in the early morning. When the lob-worm fails, greaves or gentles may be used. A float is hardly necessary in the fast currents, but as it serves to mark the depth of the water, it may be used; but the angler must learn to depend on his sense of touch if he wishes to become a successful barbel-fisher. The rod should be strong, and the running tackle equal to that used in salmon fishing. He requires time to take the bait, and when struck it should be done sharply. When hooked it will be difficult for him to escape, strong as he is in the water. Let him have plenty of line in deep water, as he will the sooner tire, particularly if you keep a tight rein, and the end of your rod well up. Half an hour is not to long to tire a fair sized barbel, and his head should be kept out of the water. Isaak Walton

truly says that no one did over-bait the place for barbel. The best ground-bait is that made of greaves, lob-worm, bran, and clay. A punt is generally used, which enables the angler to dispense with a long rod. They keep their noses at the bottom, and their heads up stream. A cockroach, water-snail, cheese, carefully prepared greaves, and salmon roe have been recommended as excellent baits for this fish, which, when caught, is despised by most cooks.

The perch may be found almost everywhere, and of almost every size. Dashing, bold, and courageous, they afford the angler capital sport; and notwithstanding his humpy back, he is not despicable when the cook has lavished his art on him. It is by no means necessary to be so particular about the nicety and fineness of the tackle in fishing for perch. He is not afraid of a bit of gut, which should be about a yard long, attached to a silk and hair line, and armed with a No. 4 or 5 hook. The size of the hook must, however, depend somewhat on the size of the perch fished for. Even the smallest perch has a large mouth, and will take a large sized bait readily. If a common bottom rod is used, the short top may be fixed. As a rule, running tackle should always be used for perch, though I have noticed that many perch-fishers in the rural districts catch a fair basket of perch without running tackle of any kind. There are many ways of fishing for perch, dependent to a great extent on the size of the river, and the size of the fish. If in docks or deep water, the "paternoster" line should be used. This species of line derived its name from the hooks being fixed at regular distances, in the same manner as beads are fastened on a rosary. For perch fishing they may be fastened six or eight inches apart in short stout pieces of gut. In some cases only two hooks are used, the upper one being fastened contrary way to the bottom hook, so as to hold a different kind of bait. When four hooks are used, and the tackle is strong, it is recommended in tidal waters to use a minnow or a gudgeon to bait the lower hook, a fine lob-worm may occupy the next hook, a shrimp the third, and a gentle the upper or fourth hook. When two hooks only are on the line, a large lob-worm, or two smaller ones, may be placed on the lower hook, and a shrimp on the higher, and loaded with a plum-

met or bullet at the bottom. It should always be borne in mind that while perch only feed, as a rule, morning and evening in rivers, in all tidal waters they are on the feed at different times, according to the state of the tide, and on the flow and ebb the predatory perch is on the lookout for prey. In open water perch love to lie about mill pools, locks, and bridges. They have a hankering after barges, shipping, and timber. In more quiet streams they like deep holes where there is an eddy; back-waters with a sandy or gravelly bottom suit them, and in these places there is no better general bait than the well scoured worm, either red, marsh, or brandling, as described in the table of baits. They do not like bright sunny weather, and the angler will find the forenoons and the evenings, even in cloudy weather, more suitable for perch-fishing than the midday or sunshine. There is not much trouble to persuade the perch to bite, and as he hunts in company, when one is captured, there is a great probability of securing his companions also. Excellent sport may be had with perch from a quarter to a pound and a quarter in weight, for though larger perch have been caught, they are by no means common. In the boiling eddies near mill streams you may fish successfully for perch with a paternoster line, loaded with a bullet to keep down the baits; but as a float would be worse than useless, the angler will have to depend on his sense of touch to know when he has a bite. Minnows are an attractive bait for large perch, and in comparatively tranquil waters it is sometimes an irresistible bait. The hook must be inserted behind the back fin, and the line well weighted, about a foot above the bait, to keep it well down. Gudgeons, stone-loach, and frogs, have been found effective in attracting perch (see Chapter XII.) I recollect many years ago hearing an old perch-fisher describe a plan of putting a few minnows in a clear bottle nearly full of water, and corking it, leaving a small air-hole, and then sinking it in a river, with a cord attached. These act as a decoy to the neighboring perch, who are curious to know the why and the wherefore of the strange exhibition; and Mr. Fitzgibbon (Ephemera) mentions the plan as "poach-the best way of securing the perch is to bait a paternoster line with live minnows, and float it by the bottle. Of all the months for perch-fishing. August, September, and October are the best. Some excellent

sport is obtained earlier in the year. No ground-baiting is necessary when fishing for perch, though a few inferior worms may be thrown in when moving to a fresh spot. Let the perch always have a few seconds to gorge the bait. When live shrimps are used they may be kept alive in damp sand or sandy gravel, or wet grass or hay in a basket.

Eels; every angler knows the haunts of the eel, how he hides under big stones, in holes under a bridge, by half-sunk timbers, under projecting roots of trees, and a host of similar places. He is caught at nights, by "bobbing," that is, by stringing large lob-worms completely through with a needle, and tying them in the links with a stout piece of whipcord, at short intervals. These are thrown into the river, either from a boat, lock, or footbridge, and each end is held by a person who soon feels the sharp nip of the eel, who bites so hard, so tenaciously, that he submits to be pulled out of the water sooner than loose his hold. Another plan is to tie a series of eel hooks, which are made with rings for the purpose, on to a piece of whipcord, some eight inches apart, bait with lob-worms; tie a piece of lead or a bullet to one end, cast it into the stream in a likely place, and fasten the other end by a peg in the bank, or tie it firmly to the weeds, and leave it all night. Another plan is to bait the hook with the worm, tie a piece of stout line to the hook, and then pull the line through the top ring of a trolling or other stout rod, until the bait is tight to the top; hold the cord and rod together, and place the bait near the haunt of the fish. If the worm is a large one, the eel will not refuse it, but bite greedily. The rod may then be withdrawn. The eel is, however, not yet landed; he has immense muscular force in his tail, which can only be overcome by a steady, strong, but not too strong pull on the line. Gradually he uncurls and permits himself to be pulled out. The moment he is on shore, put your foot on his body, and cut off his head. There is no better way of preventing the thousand contortions and twists of the nimble gentleman round the tackle.

The lamprey belongs to the eel tribe, and is caught in a similar manner; the gut of a fowl and other garbage may be substituted in both cases for the worm. A small lamprey makes a good bait for several kinds of fish, if put on the hook like a worm.

CHAPTER IX.

What to Fish For, and Where, Continued—Haunts of the Trout, Grayling, Salmon, etc.

In the early spring months, ere the fly appears on the rivers, the glorious trout may be lured with the red worm. Fly-fishers affect to despise this method of fishing, as being childish, but it will take all their cunning and skill to succeed in capturing trout by its means in low clear water. It is practiced early in March, in shallow streams, where the trout are on the look-out for prey. It is sought as a refuge when the waters are muddied and colored after a flood. In the hot burning days of July, it enables the skillful angler to fill his basket, when all flies would be refused. Worms may be used as a tripping bait, as if borne along by the stream near the bottom, or they may be used with a float, as described in fishing for the coarser varieties of the river tribes. In deep pools, under the shade of bushes and trees, they are used instead of natural flies by the bush-fisher. The tackle necessary for worm fishing for trout is similar to that used by ordinary bottom-fishers. The rod should be long, flexible, and pliant—one seventeen or eighteen feet will not be found too long, if not unwieldy and beyond the strength of the angler. The running tackle may be the same as before described. The foot line of fine gut, with the hook whipped on with red silk. The worm must be placed on the hook as before described. Baiting with the double worm (page 39) will be found nearly as effective and less troublesome. Different authorities argue in different ways with respect to shotting the line. Unless the worm is a large one, sinkers will be found necessary, particularly if there is much wind. Plenty of worms are indispensable; they are best kept in a flannel bag, which may be fitted with a loop to hang on a button. The casting of the bait is of great importance. I have had equal sport when fishing down-stream, as up-stream. The angler in this must suit his convenience and the state of the water There must be no jerking of the bait; it may be sent forward, so as to fall lightly and athwart the stream, and be

drawn gradually to the side. The line must be kept out of the water as much as possible. This is easier done fishing down stream than up, and if the angler can keep himself out of sight, perhaps the advantages will be on his side, as trout are generally on the look-out at the head of the stream in the eddies, and scours for prey coming down. A bite is easily distinguished by the sudden stoppage of the line. In swift waters the bait is generally swallowed at once, in deeper and quieter waters the trout seem to play with it ere gorging it. It is difficult to know when to strike under these circumstances, and it is certainly better to wait until the bait has received one or two tugs than too be to hasty. When the water is still and clear, every artifice must be tried to keep out of sight. Kneeling will be found to be a good pratice where the banks are open, and it is best to keep on the shallow side of the stream, opposite to where the trout generally lie. The angler must be up early if he wishers to be successful. A dry July morning, or one when the rain is warm, will be found suitable for the sport—the lull after a shower. In calms, the trout lie in the eddying rush at the head of the pools; when the surface is rippled by the wind, they lie at the tail of the pool. In deep streamy depths, behind stones, in eddies they may be found watching for their prey. In shallow water great care is requisite, as the trout are often at the very feet of the angler. The days to be avoided are those which are dull, heavy, and windy, and those which are clear with a westerly breeze. When August is advanced, trout begin to refuse the worm in clear streams. In flooded streams, where the river is discolored, trout leave the deep current, and are to be found in the shallows, in the quiet waters, at the tail of the streams. Pools and streams in these circumstances should be fished round, and trout will take the worm during the whole of the season.

Trout may be taken by caterpillars, and two or three screws or fresh-water shrimps will often entice him. He may also be caught by spinning with the minnow.

The grayling, which is not a common fish, will take a small red worm in slightly flooded waters. They will also bite at the grasshopper, and do not despise a gentle. A taking bait is to dress a No. 6 sneck-bent hook, on which a pennyweight of lead is cast with green silk, with a split straw on either side, ribbed with orange or yellow silk. On

the bend of the hook a real grasshopper is placed with the legs clipped off at the first joints. The angler should use a small float, and keep the bait continually on the move, one way or other. I cannot speak of the attractiveness of this bait from practical experience.

There are times, particularly in the early part of the season, when the waters are muddy and high, when salmon will bite greedily at worms and other lures of the bottom-fishing. Many anglers—and their opinion is entitled to every respect— are of opinion that it is unsportsmanlike to catch salmon with any other bait than the artificial fly. It certainly does not possess the charm that fly-fishing does, but at the same time it affords capital sport when the fish will not rise at the fly. The tempting lob-worm may be used as a tripping bait in the same manner as that recommended for trout; the line must be leaded to keep down the bait. The salmon when hooked must be played and maneuvered in the same manner as when fishing with the artificial fly.

One of the best baits for salmon is the small silver and black eels found in the sand on the sea-shore, known as sand-eels. An artificial one has been made of white leather, with a dark-colored stripe down the back. Salmon may also be taken by shrimps, limpets, snails, but shrimps are valueless as baits unless in salt or brackish water. Salmon are also taken by spinning the minnow and partail. The process is the same as that described in the chapters on Trolling and Spinning for Pike.

Before I proceed, perhaps I had in this place better caution the tyro against the mischances likely to arise from an awkward use of the gaff-hook. This ugly-looking implement is, as before described, similar to a large fish-hook fixed in a handle, varying, according to circumstances, from 18 inches to 4 feet in length. It is a useful implement enough if skillfully managed, which is not always the case. The spent fish should be brought to the side carefully, and if it is not possible to bring him in to a shelving shore, to the most suitable place, and the gaff should be slipped underneath the fish and carefully driven in beneath the pectoral fin by a sharp plunge, if you cannot insert the point beneath the gills. An excellent gaff is one which shuts, and has a handle which screws into two pieces. Such a one can be slung over the shoulder without dan-

ger, and is also useful for clearing weeds and other obstructions in the way of line, bait, and hook. Those anglers who reside, or are staying near the sea-shore, will find a few suggestive hints for the employment of their time, and the use of their bottom-tackle, in the chapter on Sea-Fishing.

TROLLING—FISHING IN MID-WATER.

CHAPTER X.

How to Fish for Pike—Trolling—The Tackle, Gorge-Hooks, Trace, Baits, etc.

Under the broad and generic term of "Fishing in Mid-Water," I propose to treat of trolling, spinning, sinking and roving with the dead, live, and artificial bait for the pike, and of spinning with the minnow for perch, trout, and salmon. I place the pike in the place of honor, because those ingenious combinations of hooks and baits were specially invented to tickle his throat, and the thousand and one contrivances in the shape of artificial baits, with their pleasant but somewhat uncomfortable appendages, are for the delectation of his avaricious maw and voracious appetite.

The most curious part of the affair is, that no one pities *Esox Lucius*, which by the way is the scientific name for the fresh-water shark, who is also called "Jack," when under three pounds in weight, and pike, when he assumes more colossal proportions. He is so greedy, so tyrannical, so savage, that everybody's hand is against him, and he is against everybody in general, and every fish in particular. He flourishes and multiplies, notwithstanding his many enemies, and he furnishes sport for the angler, which is second only to fly-fishing in variety and excitement. Bottom-fishing may be emphatically the "contemplative man's recreation," and fly-fishing the acme of angling enjoyment, but both can only be practiced in certain seasons of the year, while trolling and spinning may be pursued with more or less success in any season, in any water, and in any clime. England is, however, its home, and I recollect the feeling of

horror with which an Irish angler spoke of the practice of an English "brother of the angle," who was capturing large trout in the evening on one of the most beautiful lakes in the country by spinning the minnow. This feeling is easily understood by those living in the neighborhood of good trout streams and salmon rivers who have not been deprived of the sport of fly-fishing during their lives. But the fly-fisher living on the banks of many streams find it the only substitute for the higher pursuit, and those who have tried it know that it is not a bad substitute at all, and that to succeed calls forth all the skill of the angler, while at the same time it furnishes healthy exercise for body, legs, and arms.

It is a tempting subject this fishing in mid-water. Every troller can give you some anecdote or other of the omnivorous appetite of the pike, or has some pet bait with which to catch him. I can only say in this place that pike spawn generally early in March; that they deposit their ova amid aquatic plants and weeds in shallowy streams, and then return to deep water, leaving their young to care for themselves, which they certainly manage to do from a very early age—their principal enemies being their own parents, who, when pressed for food, do not hesitate to bolt one of its own species, though they prefer the offspring of the dace, roach, or gudgeons. A hundred anecdotes rise up in the memory of their seizing every living and moving thing from the bowl of a spoon to the hand of a child.

The necessary outfit of a troller is somewhat different from that of the bottom and fly-fisher: in fact it should be special, if success is to be achieved or desired. The rod, for instance, should be light, firm, strong, and easily wielded. If it could be so arranged as to be lengthened when fishing with the live bait, a rod of twelve feet long, made either of bamboo or hickory, would answer every purpose. I like a fourteen-feet rod, but I know my case is an exceptional one. The top joint of a good trolling-rod should be made of greenhart, and hickory is allowed to be best adapted for the other joints by the common consent of the best trollers. Three tops of different lengths and elasticity are necessary, however, to suit the varieties of trolling, and the different width of rivers, and they should vary six inches in length. The end of the rod should be fitted with a knob of some hard wood to rest against the hip-joint.

The rings of a trolling-rod are very different from those on a general or fly-rod. They are solid, and jut out firmly from the side of the rod, as they are formed by brazing a slightly elliptical steel hoop into a brass plate. The ring should be nearly half an inch in diameter. Mr. Pennell says 7-16 of an inch for the middle joints, and 5-8 of an inch for the bottom ring, which is of the

Fig. 20.

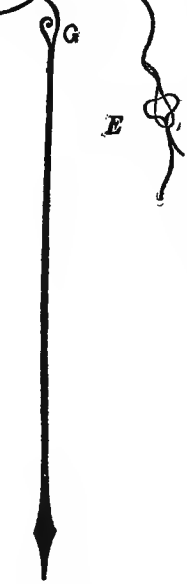


Fig. 21.

Fig. 22.

pronged shape, so as to prevent as much as possible the line hitching over it. The top ring is made of various shapes, all being designed to permit the free play of the line with the minimum of any obstruction. From nine to twelve rings are necessary, according to the length of the rod, including the top and bottom rings. A well-seasoned hazel rod, fitted with solid rings, will answer for a trolling-rod.

The best cheap rod is one made of a long bamboo cane, similar to those hung out at the fishing-tackle shops. The rings should be smooth and finely polished, so as not to chafe the line.

The best lines are those known as eight-plait dressed silk, and should be from 50 to 80 yards long. With respect to the reel: I have before mentioned the essentials of a good reel, and those remarks apply with great force to the reel of a trolling-rod. It should be of sufficient size to hold the line easily. It should wind by a handle fixed in the side-plate, be fitted with a check and the break-spring, so as to prevent the line paying itself out.

The troller also requires a bait-kettle and gaff. A series of gorge-hooks, spinning-flights, traces, swivels, as hereafter described, will also be necessary. I will commence with trolling proper, as it is generally understood, with the gorge-bait.

Trolling with the Gorge-Bait.—The first essential for this practice is the gorge-hook, which is an instrument of somewhat deadly appearance, as will be seen by the annexed engraving (fig. 20.) A is a double hook, brazed back; B is the lead cast over the shank of the hook, and inclosing a twisted wire shank, which protrudes more or less, and ends in a loop, C, to which three or four feet of gimp is attached. Gimp, I may mention, is highly essential in trolling, as gut is quickly frayed and cut by the weeds and repeated casting. There are two or three cautions necessary to be given to the young troller. It is desirable that sufficient lead should be attached to the hook to sink the bait without the addition of any further sinkers. The lead should not touch the bend of the hook, as is sometimes the case, but should be left as in the engraving, A, so that the lips of the bait may close over it, as at F. To bait the hook, the loop of the gimp, E, is placed in the eye of the baiting-needle, G. The needle is then passed through the mouth of the bait, and brought out as near the center of the tail as possible. The needle is then passed sideways through the tail at H, about the third of an inch, or less, from the end, and this, when drawn tight, so that the mouth of the fish rests upon the bend of the hook, forms the half knot, shown at C, by passing the needle through the loop. This plan is now generally adopted in preference to the older plan of tying the tail with white silk to the gimp, and stitching up

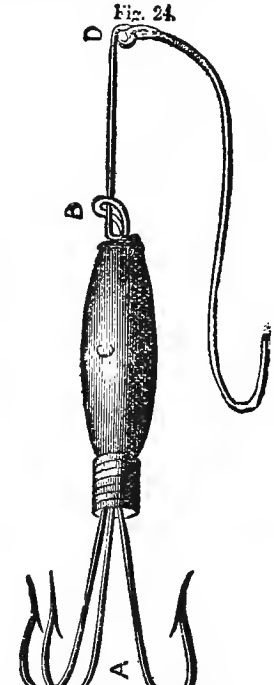
the mouth of the fish. It will be seen that the tail of the fish is cut short, as shown at H.

Another form of gorge-hook, or rather, one among a number of others, has recently been introduced, which, I think, is an improvement on any of the old forms. I have not yet had an opportunity of trying it,

Fig. 23.

Spring Gorge-Hook as in use.

Fig. 24.



Open, after having struck the fish.

but as will be seen from the accompanying illustration (fig. 23), it presents some marked advantages, if they work well in practice. The shanks of the triangular hooks, A, instead of being imbedded in the lead, are attached to a piece of wire looped at the end, B, and so arranged as to open widely at the end, in the man-

ner of the old snap-tackle. The lead, C, is cast round a hollow cylinder, to the upper end of which a shank of wire is cast, which passes through the loop of the hook-shank, B, and ends in a loop, D, to which the ordinary gimp-trace is attached. The manifest intention of the contrivance is to cause the hooks, A, on the fish being struck, to fly outwardly, as in fig. 24, and so prevent the possibility of his releasing himself except by the failure of the tackle. I can see that the objection, in practice, to this otherwise excellent contrivance, would arise from the difficulty of releasing the bait from the body of the fish, the possibility of the spring giving way and showing the hooks too prominently after a long cast, and stretching, if not tearing open, the jaws of the bait, and catch every weed and obstruction in its path. On the other hand, there can be no doubt, that if the jack once got the head of the bait inside its mouth, it would not easily escape. There is some difference of opinion and in practice respecting the trace of

Fig. 25.

the gorge-hooks. For many years I used, and many at the present time continue to use, about a foot of gimp, whipped permanently to the gorge-hook; then they attached a swivel, more gimp, sinker, and then the reel-line, if not another swivel. If the troller wishes for the sinker and the swivel, one made in this fashion (fig. 25) will be found better than merely running the wire through the middle of the lead. The swivel of the best form is shown at A. It should be of blue steel, and always kept well oiled. The lead, B, should be cast on brass or iron wire, C, and a loop left at D, or the gut or gimp may be whipped to it at the same place. It has the additional great advantage of nearly preventing the annoying and almost inevitable "kinks" which plagued the troller under the old system. The new school of trollers, if I may so term them, do not use a sinker except in spinning, and attach, as before stated, the reel-line to the three or four feet of gimp, as shown at E (fig. 20.) If the gimp is colored

with brown or green varnish, before alluded to, or clouded in the manner mentioned in the appendix, the troller may proceed with a tolerable certainty of success.

The casting of the bait is an operation requiring some attention and skill. Trollers generally cast the bait directly from the reel, which necessitates a long rod and great force. The more common and better plan is to uncoil sufficient line from the reel to reach the distance you intend to cast, and let it lie free at your feet. You hold the rod in your right hand, and rest the butt against your hip. With your right hand you draw the bait to within a yard or so of the end of the rod, allow it to swing to and fro in the direction you wish to cast, then throw it to the right or left as the case may be, withdrawing your left hand at the same time, and the line will run freely through the rings as far as it has been uncoiled. This method of casting is the same in spinning as in trolling proper. Short casts are preferred to long ones, as a rule, and the troller should bear in mind that the bait should rove about while the line is being drawn in by the left hand by short and gentle pulls. Recollect you are fishing in mid-water, and your bait should be kept thereabouts in water of medium depth: if very deep, nearer the surface than the bottom. The casts should be made somewhat up and from you, fishing the portion of the river nearest you first, and then the more distant spots. If possible, the fish should enter the water head downward, as if making a plunge, but this is scarcely possible when a long line is cast. The runs between the weeds should be carefully fished. The bait should not be lifted from the water until brought close to the troller's feet. Forty, fifty, and sixty yards is not an uncommon distance to cast a gorge-bait; long distances, however, are likely to injury the bait, and the less experienced angler casting half these distances is likely to meet with better success.

Suddenly the angler finds his bait checked—it may be a weed, possibly it is a fish. A few tugs, gentle, but with somewhat of a wrenching motion, tell that the pike is obtaining a firm hold of the bait; slacken your line in the meanwhile, and see that there is plenty uncoiled from the reel. A slight check may be given to the bait, either to make it appear that the bait is resisting somewhat the treatment it is receiving, or to see if it is a weed or a fish. If the latter,

do not hurry him; a few minutes, from five to ten, must be allowed him to gorge the bait, as he generally seizes it in the middle first, and when "pouched," he generally moves off to his favorite haunt. If Mr. Bernard's hook is used, it may be advisable to strike; but with ordinary tackle, the line may be pulled gently home, so as to allow the points of the hooks to ingratiate themselves quietly into the fish's maw.

When hooked, the fish may make violent efforts to escape, and display no little indignation. A tight line must be kept however. Keep him out of the weeds and bushes at any risk, or you will lose both tackle and fish. It will be better to risk losing the latter than both. When thoroughly exhausted, he may be brought to land; float him on his side, or he may still give you trouble, particularly if he gets entangled among weeds. A knife gaff, or a double one, is perhaps the best assistance the troller can have to lift Esox out of the water; but beware of his teeth—they are sharp. The best plan of extracting the bait is to make a small slit in the belly where the hook is, disengage the trace from the line, and draw it through the aperture.

With respect to baits, the best of all is a gudgeon. A bleak is also useful, particularly in murky weather, and when the water is cloudy. In clear weather and light water a smaller bait may be used than in high streams and dull weather. Baits should, if possible, be kept alive until about to be used, when they may be killed by a blow or two at the back of the head. When dead, they are best kept in bran. A cloth kept damp also preserves their freshness. Do not handle the bait too much.

Sometimes it is necessary to preserve the bait; brine is used in country districts, but spirits of wine or strong gin will answer the purpose best, if they can be nicely laid flat, and the air kept from them. Mr. Pennell suggests that they might be preserved in sardine air-tight cases, and sold at the tackle-shops.

Pike may be caught in almost any weather when a breeze is blowing, from June to the end of January; and the river haunts of the pike generally are under the shade of the water-lily leaves, between the opening of the bulrushes, and generally opposite to the deeper waters, where its prey abounds, or where the eddy is likely to carry its food. In

winter it prefers the backwaters and eddies, and in summer I have watched them just outside the run of the stream.

CHAPTER XI.

SPINNING FOR PIKE—NEW TACKLE—THE PENNELL FLIGHT—SINKING AND ROVING—FISHING WITH THE SNAP-TACKLE, &C.

Another, and indeed the most popular method of angling in mid-water for pike, is spinning. It has all the advantages of the old-fashioned trolling, and has the additional attraction of affording much better sport. It may be said to be to ordinary trolling what fly-fishing is to bottom-fishing. It is to be preferred on all waters where there are not too many weeds, bushes, snags, or similar obstructions in the river. The trolling-rod will answer the purpose of the spinner—indeed they are identical for all practical purposes. The reel and reel-line is the same; the bait is, however, not only a different matter, but it is differently presented on a different class of hooks. The veriest tyro in angling must have seen in the tackle-shop windows imitation fish of various sizes, and of still more diverse material, armed with the most formidable-looking hooks standing out, hanging to arms of wire, and other contrivances, until the idea suggests itself how a fish would dare to venture near such a porcupinish monster.

Let me explain the principle of the spinning tackle. The line is fitted with two, and sometimes more, swivels, which, as before described, must be kept well oiled, so as to revolve freely. The bait is attached to what is termed a flight of hooks, or "spinning flight," in such a manner as to twist or turn in the water like a thing of life, as it is moved to and fro, suggesting the idea of a glittering, splendid fish, wounded, or partially disabled, yet attempting to escape. This flight is attached to a length of gimp, to which a lead (fig. 25) is attached as a sinker, connected with the swivels and the reel line. It is cast similarly to the gorge-

THE PENNELL SPINNING FLIGHT.

Fig. 26

bait, but hooks the fish in an entirely different manner, which will be better understood by a reference to the following representation of the Pennell trace and its description. This is one of the best among scores of other flights, and I use it for the purpose of illustrating the principles of spinning, because it has the merit of simplicity, and it will be found in practice nearly all that the angler can desire. I have an artificial bait from Sweden before me, armed nearly in the same manner. The angler should keep two or three of the smaller sizes by him. Fig. 26 shows a flight which is made some six inches long, and is fitted for a fair sized dace. Fig. 27 shows the manner of baiting the fish, a gudgeon, on a 4½ inch flight, which is made with only one flying triangle, as the three brazed hooks tied to the short lengths of gut A and B are called, and which in spinning fly loose, not attached to the fish. The tail hook with its reverse is made in one piece, and should be round bent to give the proper turn to the fish. The reverse hook is recommended to be made on the sneck principle, and is firmly whipped to a piece of strong clear gut. The lip-hook is made to move up and down the line by the following means: a piece of fine wire or gimp is whipped to the side of the hook, so as to leave two loops, an upper and a lower one, shown at C. The gut is passed upwards through the lower loop, twisted two or three times round the shank of the hook, and then passed through the upper one. A good lip-hook is made with the loops formed out of the steel of the hook itself. On loosening the coils of gut round the shank of the gut, it may be slipped into any required position.

To bait the flight it is necessary to first fix the tail-hook in the manner described by Mr. Pennell himself. The point is inserted "by the side or lateral-line of the bait near to the tail, and passing it under a broadish strip of the skin, and through the end of the fleshy part of the tail, bring it out as near the base of the tail-fin as possible. Next insert the small reversed hook in such a position as to curve the bait's tail nearly to a right angle; finally pass the lip-hook through both its lips, always putting it through the *upper lip* first when the bait is a gudgeon, and through the lower one first with all others. This is very important in securing a very brilliant spin." Care should, however, be taken that the upper part of the body should be perfectly

straight, and that there should be no strain on the lips of the bait. Fig. 27 also shows the fish baited as above described; the upper triangle being dispensed with in the smaller fish. The hooks should be fine in the wire, and whipped to twisted gut for fine fishing, and to gimp, clouded or colored, for every day work. The flying triangles are tied to stouter and stiffer material; stout gut will be found generally suitable; but the author of the trace recommends gut gimp if it can be easily procured. To make it stand well out from the gimp, it is tied first in a half knot before being whipped. This is important to remember if the angler makes his own flight. The wrappings of the hooks are colored variously with red varnish or silver tissue.

The trace is made in ordinary cases of clouded gimp, but "fine fishers" use half a dozen lengths of salmon gut joined together by the knot described in the chapter on lines. The lead shown in the previous chapter is attached about halfway along this line. The old traces were always fitted with from five and even six swivels. With the improved form of lead, two or at most three, kept oiled and free from rust, will be found amply sufficient for the greatest lover of machinery.

The baits necessary are those described in the chapter on trolling. The lead must be adjusted according to the weight of the fish.

Artificial baits are so numerous that I need not do more than direct the reader's attention to them.

The spoon bait is still used in many sizes in different localities. The present mode of using it appears defective, and the plan of adding a flying triangle at the side would probably add to its efficiency. Archimedean fish and spoons may be recommended generally when the real fish is not to be obtained.

The gigantic mass of wool and feathers, known as the pike-fly, is used in some waters, particularly lakes, in the same manner as salmon-flies. The wings are usually formed of the eye feathers of a peacock's tail, and it is used with a double hook in bright weather. In Sweden a curious bait is just brought out. It works similar to the spoon-bait but is in the shape of an egg, which, on being seized, makes the venturesome pike acquainted with a number of hidden hooks, which are released by a spring or snap hidden in the interior.

PIKE-FISHING WITH LIVE BAIT.—I approach this portion of pike-fishing, which is called in angling books of a quarter of a century since, "sinking and roving," with some qualms. As a fishing practice, it is least to be defended, though perhaps the impalement of a live fish on the

Fig. 28.

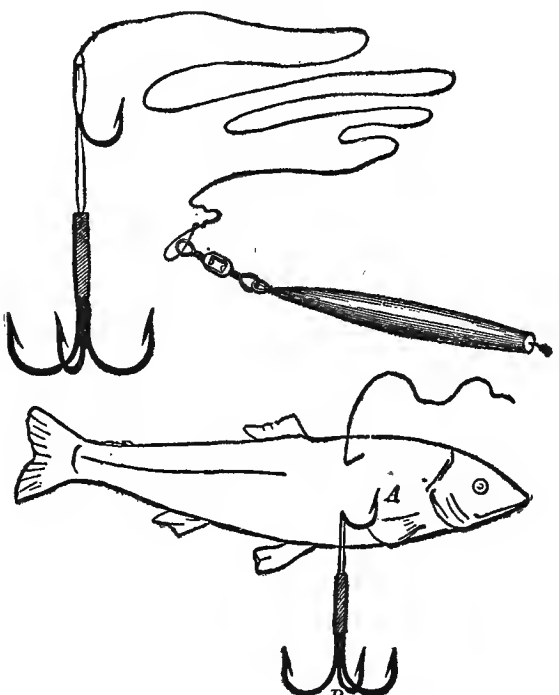


Fig. 29.

hook appears worse than it really is. I give one of the many plans of live-bait fishing. About eighteen inches of stained gimp are formed and armed in this fashion, (fig. 28). The bait is attached as shown in fig. 29. In baiting, the gimp is passed with the baiting-needle through a hard piece

of skin in one or two stitches, until the shank of the hook (A) is brought close up to the skin as shown. The flying triangle (B) then hangs as shown. I can see no advantage in the spring snap. The old-fashioned snap-tackle was adapted to smaller fish than the above, and for clear water. It was thus made with three hooks—two of No. 3 and one 8 or 9, tied at different angles. The smaller hook was inserted beneath the back fin, and the hooks were laid by the side of the bait.

A dace is "highly recommended," as the shopkeepers would say, as a bait for snap-fishing. A gold or silver fish is adapted for murky water and dull days. A gudgeon and even a minnow may be used with advantage on proportionately-sized tackle. The bait is suspended in mid-water by means of the sinker and a float, which may be one

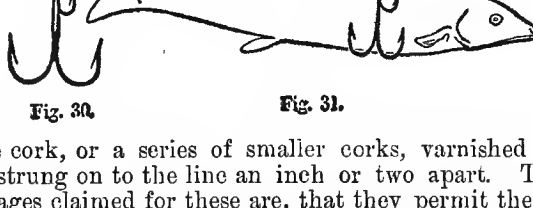


Fig. 30. Fig. 31.

large cork, or a series of smaller corks, varnished green, and strung on to the line an inch or two apart. The advantages claimed for these are, that they permit the bait to rove about more freely than a larger one, and are not so liable to get entangled among the weeds; but the greater advantage is the convenience they offer for fishing a long way from the bank, as they act somewhat in the manner of a tumbler float. The bait is best kept alive in a bait-can, described in Chapter IV., and should be taken out by a small hoop-net.

In striking the fish, either in spinning or with snap-tackle, considerable force is necessary, and the stroke should be repeated until the plunge of the fish shows that it has taken effect. In the next chapter, or spinning with the minnow, I have embodied some general hints on the subject. Huxing and trimmers are unworthy of the name of sport, however useful they may be for the purpose of capturing fish.

CHAPTER XII.

SPINNING WITH THE MINNOW.

This is one of the most attractive branches of the angler's art, and to me possesses peculiar attractions, for I have succeeded in capturing nearly every kind of fish with the minnow in nearly every part of England and Ireland, and have not found it ineffective on trying it once or twice in the deep salt sea. Premising that the general principles of spinning with the minnow are similar to those mentioned in connection with spinning for pike, and the minnow may be caught and preserved as described at the end of this chapter.

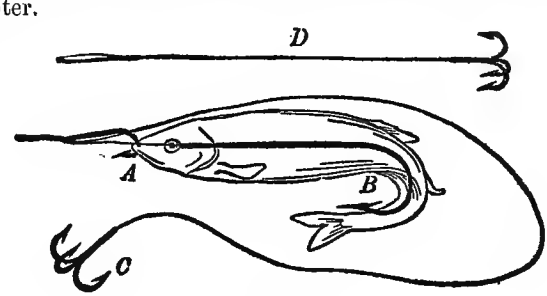


Fig. 32.

The tackle consists of a longer and somewhat lighter rod than that used for general trolling. Gimp may be dispensed with, and gut of varying fineness and strength substituted. The reel-line may be finer, and it need not be so long. The arrangements of the hooks consists of one large or body-hook, to slightly curve the fish, and a flying trace, armed with one or more hooks, is appended. One of the simplest forms of hooks is one used largely in the North in spinning for trout, and is highly spoken of. A is the lip-hook, B the body-hook, and C the flying-trace, which may have a double hook instead of a triangle. The position of the fish, when baited, is shown by the fine outline. The barb of the hook is inserted in the mouth of the fish, and brought out just below the tail, as shown in fig. 32. In fishing for trout I prefer the flying-trace, or drag, to be from

two and a half to four inches behind the tail of the fish, as shown at *C*, (fig. 32); but in finer water, or when fishing for perch, I take off *C*, and put on the smaller loop, *D*. In bright water the lip-hook may be made smaller, and the drag dispensed with altogether. Trout seize their prey by the tail, perch and pike by the middle—hence the variation in the tackle. The tackle should be whipped with white silk or strong gut, and a swivel should be placed some twenty inches above the bait, and a second one a yard farther up. Lead may be cast round the shank of the body-hook, or a few split shot added above the first swivel, to keep the bait well down, particularly in swollen waters,

Fig. 33.

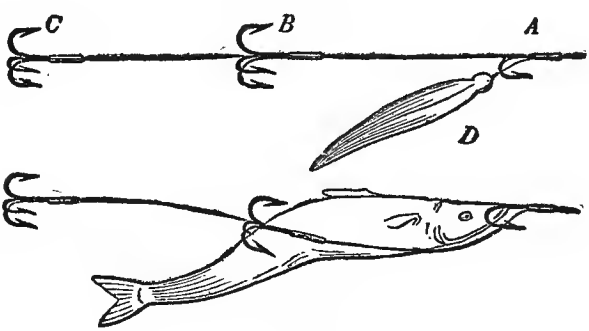


Fig. 34.

when they are most deadly. In clearer waters they may be dispensed with. In dark, gloomy days, in June and July, and in warm summer nights, the minnow will be found a deadly bait for trout. Par bait is used for the same purpose on the banks of the Tweed.

The essentials of a perfect minnow-tackle are thus correctly epitomised by Mr. Pennell, the modern prophet on spinning and trolling:—

"1. As to hooks, (A.) an arrangement which will give a brilliant spin to the bait; (B,) which will most certainly hook any fish that takes it; (C,) and which will least often let him escape afterwards.

"2. A trace, *fine*, strong, and clear of all encumbrances.

"3. A lead so placed as to sink with the greatest rapidity, and least disturbance or show in the water.

"4. The utmost simplicity of application in the whole tackle."

The foregoing (fig. 33) represents the author's realization of the essentials, which I can cordially indorse.

In it will be seen "that *A* represents the lip-hook, (whipped to the main link, and not movable;) *B*, a fixed triangle, one hook of which is to be fastened through the back of the minnow; *C*, a flying triangle, hanging loose below its tail; *D*, a lead, or sinker, whipped on to the shank of the lip-hook, and lying in the belly when baited." This excellent tackle may be baited by pushing the lead well into the belly of the dead minnow; the lip-hook is passed through both its lips, the upper one first; and lastly, insert one hook of the triangle *B* through its back, just below the back fin, so as to bend the body to produce a brilliant spin. The

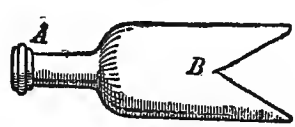


Fig. 35.

diagram (fig. 34) should be the position of the bait when properly baited.

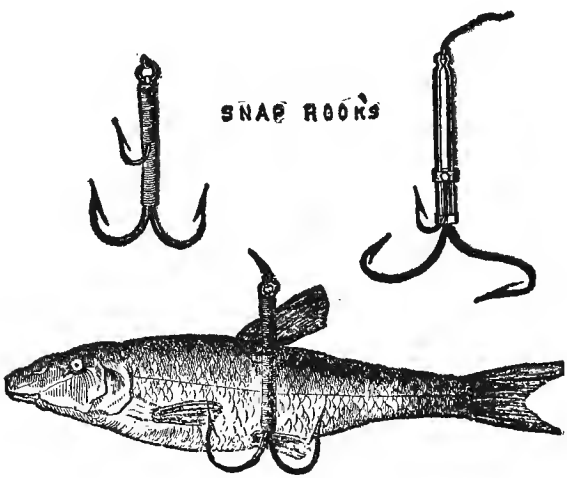
This tackle combines all the requisites of minnow-spinning, and may be successfully used for perch. An excellent spinning-tackle for trout is also made by adding a loose fly-triangle, whipped on some twisted gut, to a 3½-inch spinning-flight, as described in the previous chapter, over the reverse hook, as shown by the dotted line.

The bait, in minnow-trolling, is swung across the pool, as in trolling; and though there are various dogmas about fishing up the stream and down the stream, as in fly-fishing, the angler will do well to consult his own judgment, and be guided by the character of the waters and surrounding circumstances.

In the last chapter of this little book I have given a few hints on catching the minnow, in addition to those general directions when speaking of this pretty fish in Chapter VII. A good stock of minnows is highly necessary to an angler,

and they should be small, silver-sided, and about an inch and a half to two inches long. The coarser and dingier members of the family are of little use.

In the far North minnows are captured by the following ingenious contrivance:—A clean glass bottle is obtained of the shape shown in fig. 35. A fine meshed net is tied over the mouth, *A*, and a few crumbs of bread are placed inside. It is then placed with its mouth to the current, in a stream frequented by minnows; the water agitates the crumbs; the little gentry assemble to see the fun, and quickly find



The old Snap Tackle.

their way through the aperture *B* into the bottle, where they are joined by their companions by the dozen. This bottle is invaluable, though awkward to carry about. Minnows may by kept alive in a running stream in a wire-work box. They should be carried alive in a bait-can. A very good one is made to sling by the side of the angler, and so arranged as to prevent the water spilling over the sides. (See fig. 19).

Salted minnows are the alternative if live ones are not to be had. They are chosen for this purpose a size larger

than is necessary, as they shrivel up somewhat in the brine. They should be left in the salt some twelve hours, and then preserved in a glass bottle, well sealed. Or they may be preserved in spirits of wine, as recommended for dace and gudgeons. This plan has, however, the drawback of being expensive.

FLY-FISHING

CHAPTER XIII.

THROWING THE LINE AND FLIES.—MAKING A CAST.—HUMORING THE FLIES.—HOW TO FISH A STREAM.—HOW TO STRIKE, HOOK, PLAY, AND LAND A FISH.

To become a good fly-fisher requires address, skill, nicety of touch, and, above all, practice. Experience alone can make the youthful angler proficient in the highest branch of the angler's art. He has to capture the swiftest of the finny tribes with the finest and frailest of material, in the clearest of crystal streams. Other sports may be more exciting than artificial fly-fishing, but there are none which requires more adroitness, more intelligence, a quicker eye, or a lighter hand. While the brain must be quick to apprehend, the senses the most delicate, the body must be robust, the limbs active, and the eye watchful. You see the fly-fisher with his slender rod, gracefully waving his line over his head, and the flies drop into the stream with the lightness of a gossamer; the line does not even ripple the water, and the flies dance on the surface. Anxiously the angler watches the miniature insects formed so cunningly to deceive the cunning trout, who lies with his nose up stream watching for his prey until

> "He lifts his yellow gills above the flood,
> And greedily sucks in the unfaithful food;
> Then downward plunges with the fraudful prey,
> And bears with joy the little spoil away.
> Soon a smart pain, he feels the dire mistake,
> The danger great; too late he starts awake.
> With sudden rage he now aloft appears,
> And in his eye convulsive anguish bears.
> And now again impatient of the wound,
> He rolls and writhes his straining body round;

Then headlong plunges 'neath the friendly wave,
With frantic strength tries hard his life to save.
Now hope exalts the fisher's beating heart;
Now he turns pale, now fears his dubious art.
He view the trembling fish with longing eyes,
While the line stretches with the unwieldly prize;
Each motion humors with his steady hands,
But one slight hair the mighty bulk commands;
Till tired at last, despoiled of all his strength,
The game athwart the stream unfolds his length;
And there, all efforts o'er, he floating lies,
Stretches his quivering fins, and gasping—dies."

Ere the young angler can realize all the delights of his pursuit, he will have much to learn, and it will be his fault if he does not profit by these instructions. He must remember, however, that all that a book can do is to point out the right road, and pratice must do the rest.

The first lesson which the young fisherman has to learn is to throw his line. To do this properly requires no little address. The rod should be light, stiffish rather than supple, and about twelve feet long. His winch should be fixed with the handle toward the left, and he should draw out from three to four yards beyond the topmost ring. The rings must be in a right line with the winch, and the line should run easily through them. The winch and rings should be on the under-side of the rod; and for the first attempt, the line should not be longer than the rod itself. The beginner may now make his first cast.

To do this easily and gracefully the rod must be grasped lightly by the right hand, just above the winch, where it will balance properly. The thumb should be straight along the upper part of the rod, and slightly bent, so that the fleshy part of the thumb alone presses on the butt. The upper end of the rod should point toward the left, and the right elbow should be kept close to the side, free from constraint, and the body in an easy posture. Take the tip of your line, or, if armed, the bend of the hook, between the forefinger and thumb of the left hand. You are now supposed to be on the river's brink ready for your first cast. Take it easy. If you are flurried, you will fail. By the motion of your right wrist and for-earm, bring the rod round to the right, with the point slightly lowered; and as the line gets taut, let go the hook, point the end of the rod backward; let it describe an irregular horse-shoe curve, and then cast it forward by a flinging motion of the wrist and fore-arm.

The line will double back as the point of the rod is lowered, the end of the line will be carried forward, and fall lightly on the surface of the water. As the line goes forward, raise the elbow, and carry your arm forward to guide the line, but not so strong as to check the fly. In all probability, to the great chagrin of the young fisherman, splash will go the line into the water, and propably the end of the rod with it.

Our young Walton should not despair, but strive to avoid this drawback. He will best do so by keeping the body upright and the chest backward. Stand with your left foot a little forward, and flat on the ground, so as to afford a firm purchase, while the right foot should have the toes turned out, and the ball of the foot touching the ground with a firm springy pressure; and if you are holding your rod properly as you guide your line, you will find the butt of the rod touching the under-side of your fore-arm, and thereby preventing the end of the rod from falling too low. A little practice will enable the tyro to throw a short line with precision. He may then double the length of his cast, and no longer using the wrist and fore-arm alone, the whole of the arm may be used. The shoulder-joint should replace the elbow-joint, so as to give the line a large easy sweep, thrown well from the shoulders.

When eight or ten yards of the reel-line can be cast with ease and facility in any direction in such a manner so as not to allow more than three or four feet to fall lightly on the water, the angler may add the foot or casting-line, made as already described, of about six feet of silkworm gut, (page 24). This will give some ten yards of line to throw with, and the practice should be pursued until the gut-line falls first on the surface of the water, before any of the reel-line touches it. At first it will aid the beginner if he practices on that side of the river where he has a good breeze at his back. This will make his earliest efforts much easier, and enable him to drop the flies lightly and gently on to the surface of the water. When the angler can do this, fish fine, and far off, he may fish from left to right, or in the opposite direction to that above described. It is well always to practice various methods of casting, so as to avoid obstructions in or on the side of the river, and occasionally to cast underhand. The left hand may be practiced likewise in casting, so as to relieve the right arm when tired, but it is by no means essential to success.

Avoid the coachman's twist or jerk, or away will go your end-fly with a crack. Your motions should be easy, graceful, and precise, not sudden, harsh, and violent.

The *angler's eye* must next be acquired. The line must not only be thrown well, but with precision and accuracy. The best method of practice is to have a mark in the water, and endeavor to throw below it, above it, beyond it, on it, and on different sides of it, until you can do what you wish with tolerable precision. You should practice throwing the line where obstructions exist, until you can avoid their entanglements and difficulties. Watch the movements of an old angler under difficulties, and endeavor to imitate them. In the compass of this little manual, it is impossible to give more than general directions approved by practice, showing what errors to avoid, and what course to pursue.

I presume at this stage of proceeding the beginner is anxious to try his hand with a fly at the end of his casting-line. If he had one before, he would have lost it again and again. He may take a large single fly, tied at the end of a length of gut, and loop it to the end of his casting-line. This is the tail fly, or stretcher, and with it you may practice until the rising of a fish shows you in the most pleasing manner that you are becoming proficient. Do not, however, be too anxious to emulate the old gentleman above you on the stream, who has a "cast" of five or six flies, which he manages so deftly. Wait till next season before you proceed beyond a single "dropper," as each additional fly is called. Your casting-line may be lengthened from two to three yards, which will be found a very convenient length for a single-hand rod.

You must learn how to make the fly-cast, however, and there are several plans of performing that essential operation. The ordinary cast is made by adding from one to four "bobs or "droppers" to the casting-line, from twenty inches to two feet apart. The droppers should hang from two to three inches from the main line, and should be joined to it by slipping the knotted end of the "bob" through the links of the fisher's knot, described on page 24. This is a simple, easy, and efficient mode of making a fly-cast, and especially suitable for beginners. The droppers can be easily removed. It should not be forgotten that the flies must be dressed on the finest gut, and anything that will add to the strength of

the line, without adding to its dimensions, should not be overlooked. Mr. Stewart recommends a fly-cast somewhat different to the above, and much more difficult to make. He takes two flies dressed on long lengths of fine gut, and ties the two ends of gut together, so as to have a fly at each end. He then whips a length of gut about two and a half inches above one of the flies, and to the end of the gut he attaches another length of gut on which a fly has been dressed, and so on until the required number have been added. He claims for this plan the recommendation that really each fly forms a continuation of the main line, and if it does not strengthen, it certainly does not weaken it, The old loop practice, once so common, should never be followed.

With two or three "casts" twisted round his felt wide-awake hat, the young fly-fisher is ready to commence operations. His dress must be sober colored. He has his rod, reel, fishing-basket or haversack, landing-net or gaff, and, on his feet his waterproof boots and stockings. He has a knife in his pocket, a pair of tweezers, a disgorger, scissors, and his fly-hook. Let us hope the sandwich-case, spirit-flask, or cigar or pipe-case is not forgotten. Thus equipped for the day, he may sally forth on his piscatory campaign with pleasurable anticipation.

For all ordinary purposes a rod of some ten or twelve feet long will be sufficient for all ordinary waters. The long double-handed rod will be found tiresome and unmanageable when fishing for trout. Young fishermen should use a stiffish rod, and indeed some authorities recommend, for a variety of exceedingly profound reasons, that no other should be used. Of the lines and casts we have already treated. Let us now proceed to the fish.

One of the first trout streams I ever fished in presented greater variety of scenery and water in a shorter space than any other I have met with. While my eyes were feasting themselves on beauty, a learned discussion commenced as to whether the stream ought to fished "up" or "down." Since that time a great deal of good paper and ink has been wasted on the subject, but it is not yet decided authoritatively either way. Excellent authorities can be brought forward to prove that each plan is the correct thing. My experience goes to show that, while it is more difficult to fish up a stream, and harder work, it is more truly scientific,

and is likely to bring a greater weight of fish to the creel. The fish, which generally lie with their heads up stream, are less likely to see the angler when he is going up than when he is going down, and they can be struck easier, and in their subsequent struggles they are less likely to disturb the unfished water than when fishing down a stream, as "troutie" generally rushes downward when he finds his jaw tickled with the barbed hook. To fish down a stream is easier, is more common, and fair sport may be obtained. Perhaps, after all, it is best to avoid dogmatically adhering to either of these two schools of angling. Fish upward whenever you can, even at a little inconvenience, and come down on the opposite bank when the fish are likely to be hungry.

As you approach the stream do so cautiously, and keep out of sight as much as possible. Your lines will be all the better if they have been rubbed with India-rubber, and have been slightly soaked in water before you commence, so as to have no harshness or awkward wavy coils on the gut. Always remember that the flies should alight on the water before your line like a rose leaf on a lady's vail. To do this properly, the point of the rod must be kept well up, and the shorter the cast the greater probability of success. The most skillful angler cannot make his flies fall too lightly, or keep too much out of sight. Nay, in some streams and pools it will be necessary to kneel. If the current is strong you may repeat the cast, and fish the river inch by inch, as it were, if the pool or stream looks promising; and the casts should be made partly up and partly across the stream, so that the flies spread across the stream. Watch your flies carefully the moment they alight on the surface of the water, for that is the moment considered the most deadly by all anglers, and when the fish is most likely to mistake them for the real insect, and to seize them. Strike at once, firmly but gently, before the fish can eject the fly on finding his mistake. Striking should be done by a slight but quick motion of the wrist, and in the same direction as the rod is moving at the time. An excellent plan to fish a stream is to keep away from the bank, and fish the nearer side first, keeping the flies on the surface, or but an inch or two below it, until the line gets dragged by the stream. Then return to the tail of the stream and fish the off-side in the same way. In very clear

water this plan is essential to success. By all means the fly-fisher should endeavor to give his flies as natural an appearance as possible. He should humor them. If possible it should be allowed to drop lightly into the water from a stone, leaf, grass-butt, or other substance on the river. The quivering of the rod, the bobbing up and down of the flies, moving them along by jerks, and a variety of other contrivances, may be recommended to give them the appearance of living insects. The best plan is to elevate the point of the rod, so as to keep one or more of the "droppers" skimming the surface of the water. Never drag your flies straight across the water. Should they be under water, any motion communicated to them is worse than useless. If the trout hooked is a small one, out with him at once without disturbing the water. If a large one, pull it down stream. By doing this you have the force of the current in your favor, the fish chokes rapidly, and exhausts itself more rapidly. Playing a fish is the great crisis of angling. The struggle of force has commenced, and it is doubtful which will be the conqueror. But be calm. Decide if you can if your fish be a large one, or a small one hooked foul, that is, outside the mouth, in the body, tail, or fin, which is often the case. A small fish under these circumstances is as strong and as difficult to exhaust as a large one. If a large trout is deeply hooked, he plunges at once to the bottom, and it will be necessary to check him gently by raising the point of the rod. If but slightly hooked, the fish struggles at first on the surface of the water, as if by his antics he thought to get rid of the troublesome bit of steel. If the top of the rod is lowered, the weight of the line will cause him to descend. You must, however, hold him well in hand. If he rushes from you, keep going with him until you judge it is necessary to check his career. At every pause turn the butt-end of your rod to him, bringing the lower joints over your right shoulder. The strain will then be equalized on your tackle. If still vigorous, do not press upon him too hard; let your rod come more to the perpendicular, and indulge him with another run or two. As he becomes weaker, wind him up, so as to make him show himself. If his fins beat languidly, and he is evidently weak, guide him with the water, not against it, to some easy landing-place; and if the landing-net or gaff is not handy, take him in the left hand,

but do not attempt to lift him out of the water by the line, or take the hook out of his mouth while in the water if you should be wading, or you may lose your labor, your temper, and the fish at the same time.

If the fish is deeply hooked, he darts to the bottom, and you may be certain you have him firm. Though this assurence may give you more confidence, do not be rash. Remember that the success of the angler's craft depends quite as much on *suaviter in modo* as the *fortiter in re*. Lead him into the open water gently, and do not let him have an unlimited quantity of line, which, though it may tire the fish, gives you less command over him. As his vigor becomes reduced, and he turns on his side, keep his mouth open at the surface of the water, so as to suffocate him. This apparent paradox is by no means difficult of accomplishment. Always play your fish with a light hand, and never seize your line in either hand either to shorten or let out more line. It is an awkward, bad practice, and should be avoided.

Occasionally the hooked fish, prior to taking his deep dive, takes it into its head to perform some aerial evolutions, which are exceedingly trying to the angler's skill, as the line may be easily broken by a stroke of the tail. It is best to keep the line taut while the fish is rising, and slacken it considerably as the fish falls, so as to prevent the tail striking the taut line. In landing a fish, let the landing-net be slipped under the fish, so that he may drop into it. Bring him, if possible, to a shelving bank, but if this is not possible, bring the exhausted fish close under the bank, and slip the net under him. Do not frighten him, and let the net be kept of a green color. If you use the gaff, insert it beneath the gills while he is gasping, or strike it beneath one of the pectoral fins. A landing-net or a gaff is indispensable in fly-fishing.

CHAPTER XIV.

TROUT: THEIR HAUNTS, HABITS, AND TASTE.—SCOTCH AND IRISH FLY-FISHING.—MONTHLY LIST OF FLIES.—GENERAL HINTS ON GRAYLING AND TROUT FISHING.

While the mere mechanical routine of the "gentle craft" is easily acquired by those who have the desire to do so, and who possess the necessary patience, there is much to be learned ere the tyro becomes the expert and scientific angler. He must know the haunts of the fish, and tell almost at a glance where the best fish lie, and choose intuitively, as it were, the mort alluring baits, and those best adapted to the season of the year, and the particular locality. Observation and experience must be the joint teachers of this special knowledge, for no verbal directions can impart it. There is also the fine feeling of a sportsman to be acquired, which checks the mere butchery of the fish, otherwise than by fair fishing, which places the love of sport above the satisfactory basketful of shining beauties in their grassy bed. The whole art of angling has been truly said to be the knowledge of how, when, and where to fish, and what to fish with.

The trout, which after all is the special object of the fly-fisher's ambition, is a gentlemanly fish, of high instincts. Not for him are the slow sluggish stream or muddy waters. He leaves them for coarser natures. He likes not groveling in the mud, but courses along the watery highway, which runs clear over a gravelly bed. He is nice in his taste, and prefers the sportive fly to the lowly grub. He is not easily entrapped, he calls forth the highest skill of the angler, and often comes off the victor in the encounter. He is truly the fish of the spring, and is in the primest condition when nature is decked in her gayest apparel. From September to March he disappears from the angler's calendar. He waits until the daisy shoots from the sod, and then he delights in the shallows and the rougher streams, running into deeper water and sandy pools, where

he sojourns during the heat of summer. In whirlpools and holes he delights. He loves the sharp current of a mill race, where he can retire behind a rock or a big stone. Sometimes he is to be found under bridges, or between two arches which divide the current. He is gregarious and loves his kind, and though his size and condition vary in different countries, his main characteristics remain the same. Reveling in beautiful scenes, he is susceptible of the influence of the weather, for when the storm rages he refuses to bite at even his most favorite food.

But what is the favorite food of the trout? On this subject anglers cannot agree. The taste of the fish varies. He is hungry or the reverse, and from the experience of to-day and to-morrow various theories have been propounded, and learned discussions inaugurated, which only serve to perplex the inexperienced and to amuse the expert angler. There are as many different sorts of flies recommended as there are days in the year. Nay, there are some who use one fly in the early morning, another in the forenoon, a third during the heat of the day, and a fourth in the evening. The young angler may indulge these fancies when he has plenty of time to spare, and has profited by the result of my experiences and of those who have kindly advised me in this disputed portion of our work.

Those flies will be found to be the best which approach *in shape* nearest the common flies of the stream on which you are fishing. The color is not so important as the shape, if they are not too large and clumsy. The finest and best will be useless if the fish are not on the feed.

I cannot here enter into an elaborate defense of these propositions, which I hold to be truthful and likely to command the adherence of a large body of expert brethren of the craft. I lay them down for the guidance of those who have to acquire experience, so that they may not be misled into continually changing their flies, and wasting their time whenever they are not meeting with the success they feel they deserve. In a succeeding chapter I have given full and explicit directions concerning the flies, and here I need say no more than, as a rule, a dark colored fly is best for clear water, a lighter or yellow fly is more suitable for darker waters, and has been found especially killing at the close of the day. An excellent practice is to arrange the "cast" so as, if possible, to embrace the varied taste of Mr.

Trout, or to meet his caprice. A black, brown, red, and dun fly will always be found to kill well, and will prove the happy medium between the opposing thories of the theoretical and practical schools of anglers. Mr. Stewart, for instance, recommends, "When commencing a day's fishing at any season, the angler should begin with three or four different varieties, say a black spider for the tail fly, a woodcock wing with yellow silk and red hackle for the first dropper, a hare-lug body and corn-bunting wing for the second dropper, and a dun-colored spider for the fourth fly." It will be easily seen which are the favorities, and then the others may be changed. The tail fly and the third dropper will be found almost invariably to be the most deadly. Larger flies may be used in rivers not much fished, but in well-fished clear streams the flies must be small and neatly made.

So great is the difference of opinion among anglers of experience, with respect to the number of flies necessary, that Mr. Fitzgibbon ("Ephemera") gives a reduced list of sixty-eight flies, while Mr. Ronald, in his "Fly-Fisher's Entomology," seems to have exhausted the insect creation in his endeavors to show *all* the flies a fly-fisher *may* use. On the other hand, Mr. Stewart ("Practical Angler") gives only six, which for curiosity we extract:—

1. A woodcock wing, with a single turn of a red hackle, or landrail feather, dressed with yellow silk, freely exposed on the body. For fishing in dark-colored waters this fly may be dressed with scarlet thread.

2. A hare-lug (ear) body with a corn-bunting or chaffinch wing. A woodcock wing may also be put on the same body, but should be made of the small light-colored feather taken from the inside of the wing.

3. The same wing as the last fly, with a single turn of a soft black hen hackle, or a small feather taken from the shoulders of the starling, dressed with dark-colored silk.

Thus for flies proper: now for the "spiders" or hackles.

1. The black spider. This is made of the small feather of the cock starling, dressed with brown silk, and is upon the whole the most killing imitation we know. This fly was shown to Mr. Stewart by the renowned James Baillie, and it is used constantly by those gentlemen.

2. The red spider should be made of the small feather taken from the outside of the wing of the landrail, dressed with yellow silk, and is deserving of a very high rank, particularly in colored water.

3. The dun spider. This should be made of the small soft dun or ash-colored feather taken from the outside of the wing of the dotterel. As this kind is scarce, a feather from the inside of the wing of the starling will have to serve as a substitute.

I can speak to the general efficiency of all these, but I cannot indorse the author's doctrine that they are sufficient.

In another chapter I have given a list of forty of the principal flies, selected from various sources, which have the highest reputation as killers, and I have included a list of spiders or Palmer hackles which may be used generally throughout the year. I have found a yellow drake, dressed on a blue body, wrapped with silver tinsel, with a strip of golden pheasant, and blue jay feather, full at shoulder, a killing fly everywhere. It is a favorite with one of the most successful anglers on the Fergus and Shannon. Mr. Charles Armstrong of Larch Hill has kindly forwarded me the following hints, with respect to the best lakes and streams in his neighborhood. With respect to trout and trouting, he says, the principal trout lakes in Clare are Inchiquin and Dromore. The flies used on both are very much the same, and are known by the name of Inchiquin, Dromore, and Lochabar flies. The colors distinguish them, such as brown, black, cinnamon, claret, frieze-brown, etc. They are nearly all fur or mohair bodies, and are tied on Nos. 5, 6, and 7 hooks as follows. Gold tinsel tail, a couple of turns of orange, yellow or green silk under jib, which should consist of three fibers of brown mallard hackle to suit body. The body should be of mohair, slight at the tail, and getting fuller toward the head. Four turns of tinsel on body. For the wing a little peacock blue breast feather to form the body of the wing, and a sufficient quantity of brown mallard to form each side wing. Peacock or ostrich tail for head.

On some flies partridge and rail may be put on the wing, instead of mallard. These flies of different colors hold good during the season.

Hare's ear and hare's tail and yellow, with the wing of a starling, are also good.

Lochabar is another name for the orange or green grouse and rail, with the addition of a little pheasant butter feather in the wing.

In February, cinnamon, copper-colored, deep brown, and black are excellent. Large hare's ear and yellow or orange, with gold breast. A small peal-fly (see Chapter on the Salmon) is also good.

In March, the same flies may be used. Some of the flies should have plain rail wings, as few spotted flies are yet out.

In April, pale brown and cinnamon, rubbed with gold cord, red hackles, partridge, and rail wings. An excellent fly is one made of deep brown and claret. and all shades of hare's ear are good.

In the fly-fisher's month of May, the trout feed mostly in the evening; and throughout this and the following month, hare's ear, and all shades of Dromore flies, will take well. In high winds the gaudy black fly should be tried.

There are few fish taken in July, and the same flies are used; and from this time to the end of October, the trout will take the flies named for February. In the Clare lakes trout run from 2 lbs. to 10 lbs. in weight.

The best flies for March are the February red, varieties of spiders, cow-dung, March brown alder.

In April, the above flies, with the sand-fly, stone-fly, gravel bed, yellow dun, iron blue, the jenny-spinner, and oak-fly. Attention should be paid to the description of flies in the water, as some of the flies are partial, and only found to be of any value on particular waters.

In *May*, nearly all the previous flies will secure a run. The green-drake, sky-blue, and the fern-fly will be found the best new ones.

In June, the gray-drake, the coch-y-bondhu, a beetle, the great whirling-dun, will be good for a change; but the May-fly (green-drake) is the favorite.

In July, the pale wing-dun, the July dun, the ant-flies, silver-horns, with moths for the evening, are the fishy favorites.

During August, the palmer-hackles and moths, the August dun, house and blow-flies, are good for a change.

In September, the cinnamon-fly, pale-blue, whirling-blue dun, and the palmers, are sufficient with the moths.

For grayling, in streams where they abound, at the heads and tails of streams they love to frequent, particularly if it has a gravelly bottom, similar flies will be found taking, in every sense of the term, if the hook is armed with a gentle or grasshopper.

The accompanying plate gives illustrations of sixteen useful flies. Fig. 1 is a useful beetle, with a shorter hackle; it is the coch-y-bondhu of Irish fishermen. Figs. 2 and 3 are useful palmers, which, if dressed on larger hooks, form excellent chub-flies. Fig. 4 is the golden palmer. Fig. 5 is the house fly, and, if dressed with a brilliant harl, becomes the blue-bottle. Fig. 6 is the fern-fly. Fig. 7 is the yellow sally. Fig. 8 is the oak-fly. Fig. 9 fairly represents the form of moths. Fig. 10 is the governor, and the general form is that of the ant-flies. Fig. 11 is the stone-fly. Fig. 12 is the March-brown; fig. 13 the blue dun; fig. 14 the red spinner; fig. 15, whirling-dun: fig. 16 the May-fly.

There are several maxims which the young fisherman would do well to remember. Tread lightly, and keep yourself well out of sight. Always fish with as fine a tackle as you can use, and think no time wasted in care and preparation.

The best weather for fishing is probably when a warm south-west wind dapples the surface of the water; but the direction of the wind, with reference to the point of the compass, is of less consequence than its power. It is exceedingly difficult to fish up stream when the wind is blowing down; but the splash of the falling line into the water (which it will do under these circumstances, in consequence of the force necessary to be used) is less likely to be noticed than in calm weather. When there is no breeze, wait until the motion of the line has subsided, and then draw the flies slowly toward you. Never allow the flies to remain stationary. In sunny weather avoid letting your shadow fall into the stream. Rather have the sun in your eyes.

The best time for fishing is in the forenoon, and later in the evening, when the trout are on the "feed," which may be easily seen by their rising; make the most of your time, as quickly, quietly, and steadily as you can, or else you will mourn lost sport in a hitched, tangled, or broken line.

Do not be in a hurry to change your flies. If a fish rises and refuses your fly, give him a short rest, and try him again. Remember a trout cannot be enticed. If he again refuses, proceed on your way. If a fish rises behind you, do not "hark back;" he is looking for other prey than yours.

However tempting it may be to wade, and however well prepared you may be, do not do so unnecessarily; it only disturbs the fish, spoils your neighbor's sport, and is not conducive to the health of those who happen to have even an iron constitution.

Trout will seldom rise immediately after a flood, as they have been too well fed. The water is best after sufficient rain to just color it.

Fishing at night, or in dull weather, the flies should be larger than those used in clear weather during the day. In dull, wet weather, the flies take better when they sink beneath the surface of the water. A large moth-fly is best for night-fishing, and not more than two need be used. In the heat of summer the addition of a "gentle" to the fly will add much to its attractiveness. For special directions adapted for each month, the reader is referred to the "Fisherman's Calendar," (Chapter XX).

CHAPTER XV.

ARTIFICIAL FLIES, AND HOW TO MAKE THEM.

Cheap as artificial flies may be bought, and experienced as the professional hands may be in their manufacture, every angler has felt, from time to time, the want of the special knowledge to make his own flies, or alter existing ones. If the angler practices when young, he soon acquires an expertness which he never forgets, and which will serve him in his need, and enable him to find an agreeable occupation on many a wet afternoon, when unable to pursue his favorite sport.

It is difficult to say anything that is new on this subject, or even to clothe the old practice with new expressions; but I will endeavor to describe the process clearly and concisely.

The necessary implements are few. At first, a small hand-vise will be necessary, a small pair of brass nippers, a pair of fine scissors, curved at the points, and a pair with very sharp and fine points, a needle (which may be fitted into a small handle) for dividing wings and picking out dubbing.

The materials used by the fly-dresser of the present day are somewhat more simple than was formerly thought possible—shape being more attended to and variety of material less. Feathers of various kinds are not only the most suitable but last longer than almost any other substance that has been employed for the purpose, and they are supplemented with fine hair and silk. In selecting feathers, great care is necessary, and they should be plucked from bird when in full plumage, and every description of bird may be laid under contribution for this purpose. Hackles taken from the neck of the common cock are very useful when of a proper color and shape. The fibers should taper gradually from the root, and where they should be longest, toward the point. The dun or blue hackle is particularly difficult to obtain of the right color, with the fibers of the proper length, which is about half an inch. The feathers of the cock-starling have a high repute in the north, as combining good color with that medium strength which avoids harshness on the one hand, and softness on the other. Feathers of the landrail are also highly esteemed, taken from outside the wing, being of a reddish-brown color. The dotterel feathers are also useful, but apt to get soft in the water. The gray-plover, golden-plover, thrush, partridge, grouse, woodcock, and snipe, are commonly used. Even a tomtit's tail does not escape, while the peacock and ostrich tails, or single fibers of their plumes, are in common use, when dyed, for bright and variously-colored flies. The wings of the flies are made from the wing-feathers of the corn-bunting, lark, starling, chaffinch, woodcock, landrail, and other birds.

Fur and hair are used for the bodies of flies, under the name of "dubbing." These are wanted of every shade, and are usually obtained at the furrier's. A hare's ear, the fur of the water-rat, the fur of the bear, of various shades, badger's hair, the fur of the squirrel, and field-mouse, are also in request. Hog's down is the best hair, and should be obtained about Christmas. It may be dyed any color.

Mohair is sometimes used, and colored worsted is only used for salmon and pike flies.

For tying the flies, fine marking silk of different colors is necessary, some hard shoemaker's or saddler's wax, some colorless wax, of which we give the recipe, a variety of hooks, with a little gold and silver twist, and the fly-dresser has all the materials for making flies of any pattern.

Before commencing to make your flies, arrange all your materials in the handiest possible way under your eye. Let your gut be of the finest description, the hooks adapted to the size of the fly, with the wings, hackles, dubbing, and silk assorted. The flies are generally divided into two varieties — hackles, variously called "palmers" or "spiders;" winged flies, dressed with dubbing, or with hackles, in imitation of gnats, midges, and other flies, while "spiders" represent caterpillars and other embryo flies.

The first process, that of "arming the gut" is thus performed. It is essential that every angler should learn to arm his gut and tie his hook, as it is the foundation of the bottom-fisher's, as well as the fly-fisher's, art. The gut is first coiled, and the end flattened and softened between the teeth, so as to make it broad and prevent it slipping. The hook is then taken in the left hand between the forefinger and thumb, with the back uppermost, and the barbed point downward, so as to leave the shank bare. The gut is laid along the *upper* portion of the shank, and is secured by a slip-loop of well-waxed silk, about the middle of the shank, opposite the barb of the hook. The gut and hook are then whipped firmly and neatly together, in regular screw-like twists, until you come to the end of the shank, where a few turns of the thread will form the head, and a slip-noose fastens the silk. If well and neatly done, it will present the appearance of fig. 36. This is the foundation of all flies.

To make the palmer-hackle, or spider, great care is necessary, but the operation is not a difficult though a critical one. Still holding the hook as before, you take the feather, lay it with the root toward the bend of the hook, wrap the thread two or three times round it, and then cut off the root end. Fig. 37 will show the hook at this stage. There are two processes of forming the spider open to the student.

He may wind the feather neatly round the hook, until he reaches the bend of the hook, where he may fasten off, and release any fibers that may have become entangled during the winding. He may then clip away any long rough points, the end of the feather, and the silk, and his fly will represent fig. 38. Another process, and a better, is to run the thread, after tying the hackle on, (as fig. 37), along the center of the feather, and with the forefinger and thumb of the right hand twist them together until the feather is rolled round the thread, and in this state wrap it

Fig. 36. Fig. 37.

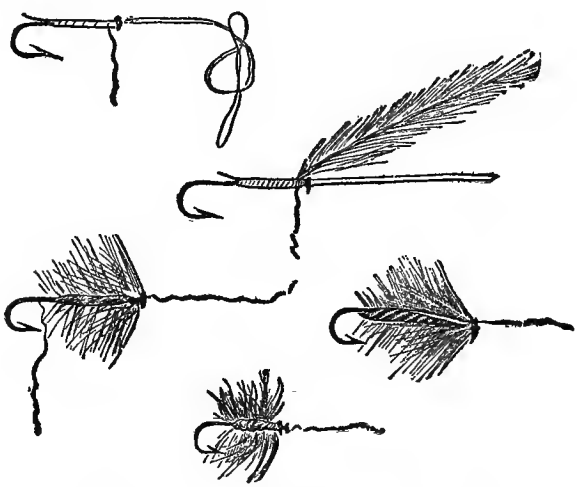


Fig. 38. Fig. 39. Fig. 40.

round the hook, taking care that the fibers stick out well to represent the legs of the insect, until you come to the bend of the hook, when it may be fastened off with the whip-fastening, or a succession of hitch-knots. The feathers must be long enough to hide the hook, as shown in fig. 39.

To make a palmer-hackle, representing a luscious caterpillar, (fig. 40), the latter process cannot be followed. When the hackle-feather is fastened on (fig. 37), some floss-silk, peacock or ostrich tail, or dubbing is used, twisted round your waxed thread, and wrapped round the shank of

the hook to form the body; but beware of getting it too bulky. Fasten at the head, then wind the hackle, as first described, and fasten at the tail. If dubbed with either gold or silver twist, it must be attached to the shank of the hook with the hackle, and wound over the dubbing and body before the hackle is brought down. The ends must be cut away and the silk fastened. It is better not to cut the hackle feathers, but they must be neatly released with the needle, so as to approach the regularity of the engraving, fig. 38. Occasionally, hackles are made from the bend, and wrapped toward the shank, or reversely to the plan above described; and this plan is adopted when wings have to be added on small hooks. The hackle, in this case, will have to be tied first by the tip, and not by the root.

The great difficulty in dressing a winged fly is to put the wings on neatly. It is thus done: The hook is armed as in fig. 36; but the whipping is not continued to the end of the shank; it stops some three or four turns off, and the feathers are added which are to form the wings. These wings are generally composed of a few fibres of some appropriate feathers, those taken from the wing of some small bird, those lying on the inside of the wing being generally the longest, lightest, and most esteemed. To whip these fibers on neatly, and make them lie properly, is a difficult operation. You take these feathers firmly between the forefinger and thumb of the right hand, and lay them on the bare shank of the hook with the roots toward the bend, as shown in fig. 41. The thread must be whipped three or four times firmly round the butt-ends of the fibers, as shown above, and the remainder of the butt-ends cut off. It is necessary now to divide the wings, by passing the silk between them, and crossing it as you bring it up, bend the fibers back and form the head. The fly may now be finished in two or three ways, principally dependent on whether it is to be dressed with hackle, dubbing, or have a tail. If with dubbing, a little is twisted on to the thread until it is rolled completely round it. It is then wrapped round the the hook, so as to form the body of the fly, and the thread fastened off as in fig. 42. A few hairs of the dubbing must be picked out round the head to give it the feathery appearance represented.

If dressed with a hackle, the wing should remain as in fig. 41, and the root-end of the hackle attached, and wound

to the bend as described in the spider, and the end of the thread should be fastened off with a slip-knot. The wing fibers must then be taken between the forefinger and thumb of the left hand, reversed, and bent down over the back of the fly. This done, pass the thread behind the wings, and twist it two or three times close and tight over the base of the wings. The fibers must be divided exactly in the middle, with the dubbing-needle. Pass the thread between them, and wind it round the bottom of one of the wings, crossing it as you bring it round under the other. Now whip the silk behind the wings, form the head, fasten off the ends, touch it and all knots with a little varnish, and you have an excellent fly complete, as in fig. 42, without the

Fig. 41. Fig. 42.

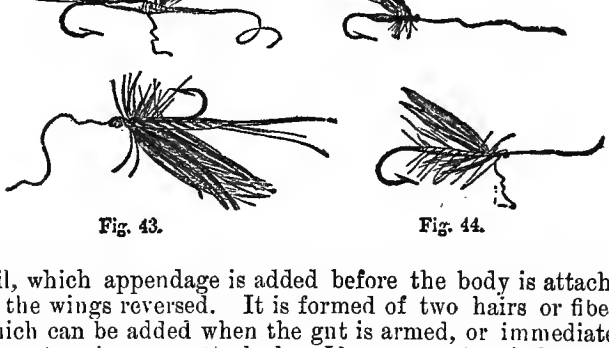


Fig. 43. Fig. 44.

tail, which appendage is added before the body is attached or the wings reversed. It is formed of two hairs or fibers, which can be added when the gut is armed, or immediately after the wings are attached. If necessary to wind gold or silver twist round the body of the fly, first tie on the tail, and then the gold twist, spin on the dubbing, wind it up to the wings carefully, fasten with the slip-knot and leave the end of the thread hanging. Take the gold twist and wind it with regular intervals up to the wings, fasten it, and cut away the loose twist. The hackle may then be wound for a couple of turns over twist and dubbing, and then fasten down, cutting away the loose end. The thread may then be brought through the wings, and the fly finished as before.

A good fly should have both wings equal; it should be well proportioned, and should sit easily on the water. In arming your gut, see that it is done with silk the color of the body of the fly, and it should be waxed with colorless wax. If the body of the fly is to be of silk, you may make it while arming the gut, and tie on the hackle and wings, bring the hackle down two or three turns over the body, (fig. 43), fasten off, reverse the wings, tie them neatly, and always varnish the knot. If the wings are tied on last, they often sit better, though they may not last so long as those tied in the manner above described. If the beginner fails at first, he, by perseverance, will find his difficulties disappear. Let him get good models as he progresses, and he will find our directions sufficiently explicit to enable him to make any useful fly. The illustrations, figs. 43 and 44, showing a dun-fly and the May-fly, are shown as roughly made by a tyro in the art. They are also shown in a perfect state in figs. 13 and 16, in our plate of "Trout Flies."

Artificial caddis-worm for bottom-fishing is thus made: wings full, and a brownish-red hue, which should slant over a yellow floss silk body, covered with goldbeater's skin, and ribbed with brown silk; a lap or two of bronze peacock tail will finish the head. On warm windy days it will be found very attractive.

At first the beginner may fix the bend of the hook in a table or hand-vise, and use the nippers to twist the hackle under the wings, particularly when the wings are placed on the natural way at first. He will, if moderately handy, soon dispense with these *impedimenta*.

Now with respect to the color of the flies. A wide range of material fails to give the fly-maker every tint he requires, so that he is obliged to have recourse to the dyer's art.

With respect to the dyeing of materials for fly-making, I have found Judson's simple dyes easy of application, and giving nearly every variety of tint, by judicious admixture. In order, however, that the ambitious fly-fisher should have every convenience at command, I give a few tried recipes for making the dyes themselves.

The *green drake dye*.—To make the famous May-fly well is the acme of the fly-dresser's art, and end of the great difficulties is the proper color for the wings, which are generally formed of the dattled feathers from the under side

of a mallard's wing, dyed yellow green, which is somewhat difficult to imitate. Mr. Parker's method is as follows:—"Boil two or three handfuls of yellow wood one hour in a quart of soft water; wash the mallard hackles in soap and hot water, then boil them a short time with a large spoonful of alum and tartar in a little pipkin with a pint of water, take them out and immerse them in your yellow decoction, and simmer them slowly for an hour or two. The shorter the simmering the paler the yellow of the feathers; take them out and wash them in clean hard water." When there is occasion for dyeing *yellow green*, add a little blue, more or less according to the shade of green you wish to give to the yellow. If Judson's dyes are used, the feathers must be washed and prepared to receive the color as above, and a green can be mixed easily to the exact tint. Mr. Ronald, the great authority on flies, gives, however, another method. He makes a mordant by dissolving about a quarter of an ounce of alum in a pint of water, and then to slightly boil the feathers in it to get the grease out of them, after which to boil them in an infusion of fustic to procure a yellow, and then subdue the brightness of the yellow by a little copperas.

Dun feathers.—Feathers may be dyed any shade of dun and yellowish dun by this means, which is the foundation of all good dyes. The feathers are placed in a saucepan with a quantity of soft water, and when thoroughly wetted, a small quantity of copperas (sulphate of iron) is added, and the whole simmered gently for a few minutes. This gives the mordant a base. The liquor is then removed, and the feathers are covered with a small quantity of soft water, and when simmering, a small quantity of powdered Aleppo galls is added. Of course the tint will depend on the quantity of each material used, for by increasing the quantities the color changes to almost every tint of dun. Logwood, madder, walnut peels, alder tree, bark, and other astringent dye-woods may be used instead of galls, always using soft water, and obtaining the light color before the dark. The fixing liquid is made from copperas, sulphate of alum, acetate of alum, or acetate of copper; if they are then well washed and simmered in a strong decoction of woad or weld,(*Reseda luteola,*) dyers' weed as it is commonly called, they will acquire a brilliant yellow color. White feathers may be dyed dun, by first simmering them in alum water

until thoroughly soaked, and then boil them with fustic, shumac, and a small quantity of copperas.

To stain feathers an olive dun, etc.—Make a very strong infusion of the outside brown coating of an onion, by allowing the whole to infuse by the fire for twelve hours. If dun feathers are boiled in this dye, they will become an olive dun, and white feathers a yellow. If a small piece of copperas be added, the latter color will become a useful muddy yellow, darker or lighter as may be required, and approaching to a yellow-olive dun, according to the quantity of copperas used.

To dye feathers various shades of red, amber, and brown, —First, boil them in alum mordant, already mentioned; secondly, boil them in an infusion of fustic strong enough to bring them to a bright yellow, (about a tablespoonful to a pint of water); then boil them in a dye of madder, peach wood, or Brazil wood. To set the color put a few drops of dyers' spirits (*i. e.* nitrate of tin combined with a small quantity of salt), which may be had from a silk-dyer, into the last-mentioned dye.

To turn red hackles brown.—Put a piece of copperas, the size of half a walnut, into a pint of water; boil it, and while boiling put in the red feathers. Let them remain in it until, by frequent examination, they are found to have taken the proper color.

To dye feathers dark red and purple.—Hackels of various colors, boiled (without alum) in an infusion of logwood and Brazil wood-dust until they are as red as they can be made by this means, may be changed to a deeper red by putting them into a mixture of muriatic acid and tin, and to a purple by a warm solution of potash. As the muriatic acid is not to be saturated with tin, the solution must be made diluted. If it burns your tongue much, it will burn the feathers a little.

CHAPTER XVI.

ARTIFICIAL FLIES AND THEIR VARIETIES.

In the preceding chapter I have indicated generally the flies to be used in the various months and seasons. I will now describe the material of which they are made, and their general names, which, however, vary in different localities. There is not a fly mentioned but what has been tested by experience to be useful for trout and grayling throughout the United Kingdom. I am not an advocate for a large assortment of flies. If the angler knows the district and the waters he intends fishing, half a dozen varieties, adapted to the season and the circumstances, will prove as a rule sufficient. In giving the following list I have selected those adapted to various localities.

In the earlier months of fly-fishing, say from February to the end of April, the first ten will be found good and effective:—

1. *The February red.*—Body dark red, squirrel's fur, equally mixed with claret-colored mohairs, but the latter predominating at the tail of the fly. Let it be warped with brown silk, and the wings taken from a reddish-dun covered feathers of the wing of a mallard. Legs, a hackle stained of a claret color. Hook, Nos. 9 and 10.

2. *The blue dun.*—This fly remains on the angler's list until October. The body of water-rat's fur ribbed with yellow silk, a dun hen's hackle for the legs. The wings, a feather from a starling's wing, with a double grizzled cock's hackle for tail. Hook, No. 10, (fig. 13).

3. *Hofland's fancy.*—This is an evening fly, useful for dace. Dark brown silk body, red hackle legs, with tail formed of two strands of the same; wings, woodcock's tail. Hook, No. 10.

4. *Furnace fly.*—This useful fly derives its name from the furnace hackle, which is not often met with. The outside fibers are a beautiful dark red, while that portion of them next the stem is black. They are obtained from the neck of a cock. This fly is made with an orange-colored

silk body, with a fieldfare's feather for wings, and a furnace hackle for the legs.

5. *The March brown.*—This is a showy fly, and bears many names, as the dun drake, cob-fly, brown-caughlan and turkey-fly, (fig. 12). It is a nearly universal favorite. It may be thus made of three sizes, on Nos. 8, 9, or 10 hooks. Body, deep straw-colored silk wound over with reddish-brown fox hair. The wings should stand erect, made of the light fibers of a hen pheasant's wing; a honey dun hackle may be used for the legs, and two fibers of the wing may be used for the tail. When more than one fly is used at the same time, the tail-fly should be ribbed with gold twist, and the color may be slightly varied.

6. A *March brown*, as it is called, is also made with water rat's fur, ribbed with yellow silk, partridge hackle for legs. Wings, tail feather of the partridge, and the tail two fibers of the same. Hook, No. 10.

7. *The red spinner* is a fine showy fly, dressed thus: body, red-hog's down, ribbed with gold twist and tied on with brown silk; wings, starling's wing feather; legs, bright amber-red hackle; tail, two fibers of the same feather. Hook, No. 9, (fig. 14).

8. *Carshalton cock-tail.*—A dun fly, and will be found a good killer in many streams as well as its native Wandle. Body, light blue fur; legs, dark dun hackle; wings, the inside feather of a teal's wings; tail, two fibers of a white cock's hackle. Hook, Nos. 9 or 10.

9. *The pale yellow dun.*—Excellent from April to the end of the season. Body, yellow mohair, or marten's pale yellow fur, tied with yellow silk; wings, the lightest part of a feather from a young starling's wing. Hook, No. 12.

10. *The soldier palmer.*—Body, bronze-colored peacock harl, ribbed with a fine gold twist, and two black-red or furnace hackles, struck with strict regularity from the tail to the shoulder. Hook, Nos. 10 or 11. A general fly and special favorite with grayling, (fig. 40).

11. *Coch-y-bondhu.*—Body, short and full, of black ostrich and brilliant peacock harl twisted together; wings and legs, a dark furnace cock's hackle of the purest black and red color. Hook, Nos. 10 and 11. This is a famous fly, says Ephemera; if fish will not rise at it, you may conclude they are not on the feed. They either take it for

a small red and black caterpillar, or for round black and red beetle. Fine, warm, cloudy days are the best for its successful use. Its shape is shown in fig. 1, but the hackles are too long.

12. *The orange dun.*—Another fly in request on the Test and other southern streams. Body, red squirrel's fur, ribbed with gold thread; legs, red hackle; wings, from the starling's wing; tail, two fibers of red cock's hackle. Hook, No. 9.

13. *Cow-dung fly* is in season throughout the year, and is useful chiefly in dark, windy weather. Body, dull lemon-colored mohair; legs, red-hackle; wings, from feathers of the landrail, or starling's wing, (fig. 9). Hook, Nos. 8 or 9.

14. *Stone-fly.*—Wings, a mottled feather of the hen pheasant, or the dark-gray feather of a mallard, rather inclining to red, to be dressed large, long, and flat; body yellow-brown mohair, mixed with light hare's-ear fur, and ribbed with yellow silk, so distributed in making the body of the fly that the under and hinder parts may exhibit most yellow to the fish; legs, a brown-red hackle; tail, two fibers of the brown mallard, (fig. 11). Hook, Nos. 5, 6, or 7.

15. The *oak-fly or down-looker.*—During the last fortnight in April the fly-fisher should never angle without this fly. It is called by some the ash-fly, cannon-fly, and woodcock-fly. It is found on the trunks of trees by the river-side in a state of quietude, its wings lying close to its back, and its head looking downward; hence one of its names. In May and June this fly is also in season, and it will kill well in deep streams, and on pools that are ruffled by a strong but tepid wind. I shall give but one way of dressing it, as follows:—Body, yellow, mohair, ribbed regularly with dark brown silk; legs, honey-dun hackle, wound thrice under the wings, which are to lie flat and short, and be made of the wing feather of a young partridge or hen pheasant. To be tipped with pale gold twist. Hook, Nos. 8, 9, or 10.

16. *The sand fly.*—Equally good for trout or grayling, from April to the end of September. The fur from a hare's neck, twisted round silk of the same color; legs, a ginger-hen's hackle; wings, the feather from the landrail's wing. Hook, No. 9.

17. *The alder-fly.*—Body, and dark claret-colored fur, as that which a brindled cow yields, and that of a copperish hue, from a dark-brindled pig or a brown-red spaniel's ears; upper wings, red fibers of the landrail's wing, or red tail feather of the partridge, lower wings of the starling's wing feather; legs, dark-red hackle; horns and tail of fibers, the color of the legs, the horns or *antennæ* to be shorter than the body of the fly, but the tail a little longer. Hook, Nos. 9 and 10, (fig. 8).

18. *The hare's-ear dun.*—A killing fly, and in great favor in Hampshire. Body, the fur of the hare's ear; wings, the feathers from a starling's wing; tail, two fibers of the brown feather from a starling's wing. Hook, No. 10.

19. *The blue blow.*—Wings, from the tail feather of a tomtit; body, a blue water-rat's or monkey's fur; legs, a fine light-blue hackle; tail whisks. two blue hairs.

20. *Gravel or spider fly,* appears toward the latter end of April; where it is met with it may be fished with all day, and the trout take it freely. Water-rat's fur; legs, black hackle, wings, the feather from a partridge. Hook, Nos. 10 or 11. It may also be made with a dark dun hackle, which I prefer instead of the partridge feather.

21. *Black gnat.*—A capital fly for dace as well as trout, and may be used from April to the end of the season. Body, black hackle, or ostrich harl, tied with black silk; wings, the feathers from a starling's wing. Hook, No. 13, (fig. 42).

22. *Red ant.*—This is the small red ant, and there is another of the same size, called the black ant, and two others named the large black and red ants. Body, peacock's harl, made full at the tail and spare toward the head; legs, red or ginger cock's hackle; wings, from the light feather of the starling's wing, (fig. 10).

23. *The bracken-cloth* is a kind of beetle. If made upon a large hook, it will be found an excellent fly for the lakes in Scotland. Body, peacock's harl, made full at the tail and spare toward the head; legs, red or ginger cock's hackle; wings, from the light feather of the starling's wing.

24. *Brown palmer-hackle.*—Body, brown floss silk, or brown fur, or mohair of a deep amber, or a rich brown ostrich harl, ribbed alternately with gold and silver twist; legs, a red cock's hackle. Hook, Nos. 4, 5, or 6,

25. *Red palmer-hackle.*—Body, dark-red colored mohair, with a little richly tinted red fur intermixed, to be ribbed with gold or silver twist; legs, a blood-red cock's hackle. Hooks, Nos. 6 or 7, (fig. 3).

26. *Golden palmer-hackle.*—Body, green and gold peacock's harl, ribbed with gold twist; a bright-red cock's hackle, worked with a rich green silk. Hook, Nos. 5, 6, 7, or 9, (fig. 4).

27. *Peacock, palmer-hackle.*—Body, a rich full fiber of peacock harl, ribbed with wide silver platting. Make a head to this palmer with a bit of scarlet mohair. Legs, a dark grizzled hackle, dressed with red silk. Hook, Nos. 5 or 6. This hackle, dressed very large, will kill Thames trout and chub.

28. *A good general palmer.*—Body, long and tapering of yellow mohair; legs, a good furnace hackle, wound on from tail to shoulder; head, black ostrich harl. Hook, Nos. 5, 6, or 7, (fig. 40).

29. *The whirling dun.*—Body, water-rat's fur, ribbed with yellow silk; wings, cock starling's wing-feather; legs, blue-dun hackle; tail, two fibers of a grizzled hackle. Hook, Nos. 8 or 10, (fig. 15.

30. *Dotterel hackle.*—Body, yellow tying silk, with a very little blue rabbit's fur spun on it, so as to show the yellow of the silk; wings and legs, dotterel hackle round the shoulder. Hook, No. 12, sneck bend.

31. *Golden plover hackle.*—Body, yellowish-green floss silk; wings and legs, golden plover back feathers. Hook, Nos. 10 and 11.

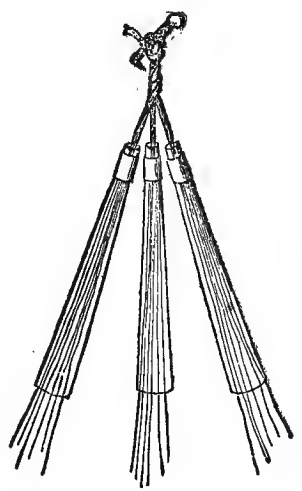
32. *Green drake.*—Appears late in May or early in June. This short lived insect is not to be found on every stream. Body, yellow floss silk, ribbed with brown silk; the extreme head and tail coppery-peacock's harl; legs, a red or ginger hackle; wings, the mottled wing of a mallard stained olive; tail or whisk, three hairs from a rabbit's whiskers. Hook, No. 6.

33. *Gray drake.*—Body, white floss silk, ribbed with dark brown or mulberry silk; head and top of the tail, a peacock's harl; legs, a grizzle cock's hackle; wings, from a mallard's mottled feather made to stand upright; tail, three whiskers of a rabbit.

34. *The little yellow sally.*—Body, light buff-colored fur; wings, the yellow feather under the thrush's wing to stand

erect; legs, a very small yellow dun hackle; tail, two fibers of the same.

35. *Moths.*—White: body, white floss silk; white wings and legs, and black head. Brown: wings, light brown mallard; legs, a twine or two of red hackle, with a fiber or two for the tail; body, brown silk, twisted tightly with gold wire. Green moth: brown mottled wings, with a twist of brown hackle for wings; body, light brown, finished with bright green silk; no tail. Hooks, 9 and 10. The general shape is shown by fig. 9.



Mode of Twisting a Horse-hair Line.

36. *Fern fly.*—This is an admirable May and summer fly. The proper sized hook is No. 10, and when the water is very low, a size smaller. The body is to be made of deep brilliant-colored orange silk, whipped sparingly with fine gold wire; wings, lying rather flat, to be made of the light mottled fibers of a young partridge's wing feathers; legs, a turn or two of a small fiery-red hackle. Hook, Nos. 11 and 12, (fig. 6).

37. *The wasp fly* is dressed thus: Body, light-orange mohair, dubbed in very thin ribs, and alternated with black

ostrich harl, neatly and finely. Form the head of bronze harl; legs, two turns of a light-brown red hackle. Hook, 7, 8, and 9; and make the wings of a partridge hackle or mottled mallard's feather.

38. *The governor.*—Body, bronze-colored peacock's harl, tipped with red silk; legs, black; red hackle; wings, from the starling or partridge tail feathers. Hook, No. 8, (fig. 10).

39. *House-fly.*—Body, black ostrich harl, dressed rather full; wings, a lark's wing feather to be flat and extended; legs, a dark dun hackle. Hook, Nos. 9 and 10. In autumn, on windy days, this fly is often greedily taken by trout and grayling. It is a better fly for chub and dace, (fig. 5).

40. *The May-fly,* (fig. 16).—This fly is very difficult to dress. The body is formed of yellow-green mohair; wings, mallard's feather, dyed yellow; a black head; legs, yellowish hackle; tail, three strands from a rabbit's whisker, or from a black bear. See receipts in Chap. XV.

FISHING WITH THE NATURAL FLY.

CHAPTER XVII.

DIPPING, DABBING, OR DAPING.

During the heats and droughts of summer, when the waters are low and clear, and the fish betake themselves to the shadow of the water-lilies and weeds, both the bottom and the fly-fisher may practice fishing with the natural fly. Indeed, it varies agreeably the somewhat monotonous pastime of the bottom-fisher; and there are few rivers where it may not be practiced, wherever a trout, grayling, chub, or, occasionally, a carp or roach may be found. It is a practice only adapted for such streams as have overhanging banks, shaded by foliage and fringed with shrubs, which hide the person of the angler. The art of dipping is simply to drop a natural fly, fixed on your hook, so gently on to the surface of the water that it may seem but the sportive tendency of the insect, and not the artificial line of the angler. It is a somewhat difficult operation to do this successfully, for it requires a light hand, light tackle, and the most delicate manipulation.

Let us see the tackle necessary to practice this quite, seductive, sleuth-like, piscatory sport. The length of the rod must depend on the situation and closeness of the waters. If the banks are shrouded with trees and shrubs, then a thirteen or fourteen feet rod, fitted with a light reel, will be best. If the banks are comparatively open and unsheltered, then a long rod will be necessary. One eighteen feet long will not be too long, as it will enable the angler to keep well out of sight, and use a blow-line. The line itself should be of fine tried stout gut, about a yard long, attached to a foot silk line, which may be lengthened or shortened according to circumstances. The hook should be short in the shank and neatly whipped, and of sizes adapted to the bait you use.

The living insects used as baits for this description of fishing are various. House-flies, wood-flies, stone-flies, green and gray drakes, blue-bottles, moths, cockchafers, grasshoppers, beetles, bees, ants, are used according to circumstances. Whatever fly is on the water, or whatever insect is plentiful along the river-banks or water-side, may be used with effect. Great care is, however, requisite in placing the insect on the hook, so as not to kill it or harm it. If properly hooked, it ought to display all its natural motions, but it cannot do this if it is roughly handled or clumsily used. If one fly only is used, insert the hook under one of its wings, and bring it out between them at the back. If two flies are used, the first fly must be hooked between the wings, at the upper part of the back, and the second fly be placed with the head reversed, and the hook inserted under one of its wings, and come out at the back. This is an excellent mode of baiting, and generally proves a seductive one for the fish. The May-fly is hooked through the thorax, and then placed heads to tails. In baiting with grasshoppers, the hook may be placed under its head or lodged in its body, or passed through the upper part of the back. The fly-baits may be caught with a gauze-net, and kept in a box full of air-holes. House and wood-flies are, however, apt to be too nimble for the angler when the box-lid is opened. An old powder-horn, with a few perforations, answers very well as a receptacle for these agile gentry, as only one can escape at a time through the aperture.

Dipping may be practiced from the middle of May to the end of August. Chub and roach will rise at the natural fly in September, on warm evenings. During the day trout and grayling will rise at the May-fly, when on the water, and in the evenings they seem to prefer a blue-bottle, house-fly, or moth. The fish, however, do not jump at the bait; they appear lazily to rise, suck in the flies as they flutter on the top, for they should never be allowed to sink beneath the water. Strike gently; do not play the fish long; tire him by keeping his head well out of the water; and then bring him quietly to the side.

In bush-fishing the angler must be divested of all incumbrances as far as possible. His equipment must be placed in a haversack under his coat; he must approach his scene of action noiselessly and unseen. Having fixed on a suitable

spot twirl your foot-line round the top pieces of your rod, so as to avoid the twigs and branches. Let it hang over the river; untwist the line gently by turning the rod, and then let the flies gently alight, fluttering at the top of the water. If there are any weeds near, so that the fly may appear to have jumped from them, so much the better. The angler must keep out of sight and make no noise. The fish—and, generally, it is big fish that are caught with the natural fly—open their lordly jaws, and generally hook themselves. If a few grubs or brandlings are thrown in ere you begin, the fish appear more greedy to swallow your bait. Everything will depend on the caution and tact of the angler.

Where the banks are more open, a longer line may be used, and the fly may be suffered to blow about by the wind, or be gently cast to some likely spot. This is difficult to accomplish; for everything like violent whipping must be scrupulously avoided. A gentle motion of the forearm must only be used, and the line brought gently round, and the bait allowed to touch the water softly. Occasionally, the fly may be gently "chucked" beneath some overhanging bushes; but this is scarcely possible without the angler showing himself. On narrow rivers no reel or winch is necessary —nay, it is rather an incumbrance. The casting-line may be fixed to the upper point of the rod, and then cast without fear.

When using beetles or cockchafers, the shield, or external wings, should be cut off, and the hook inserted at the back of the neck and out at the middle of the back, so as to permit the feet to hang downward. If the water is open, and the surface rippled with a breeze, a split shot may be attached to the line some distance above the bait, so as to sink it a few inches. This plan hardly comes within the denomination of dipping, which is generally practiced when the sun is shining, and the fish are off the feed, from ten o'clock in the morning until four in the afternoon.

Many plans have been tried to dip with an artificial bait, but without any great success, The plan recommended by Ephemera (Mr. Fitzgibbon) is perhaps the best. He recommends that a "pair of wings should be made of the feathers of a landrail," (see chapter on "Artificial Flies, and how to dress them,") and on the bend of the hook put one or two caddis. The head of one caddis should go up close to the

wings. Angle with a stiff rod, about fourteen feet long, a foot-line, eight feet long, and a hook Nos. 5 or 6. Let the bait float down the stream, just below the surface, then gently draw it up again, a little irregularly, by shaking the rod, and if there be a fish in the place it will be sure to take it. If you use two caddis with the wings, put the hook in at the head and out of the neck of the first, and quite through the other from the head to the tail. Two brandlings or red worms may be fished with in the same way.

I have caught roach frequently with a house-fly and a caddis attached, by dipping; but of the merits of the above plan for trout I cannot speak from experience. Where there are no bushes or other shelter for the angler, an artificial one may be made of a hurdle and busher, or other handy contrivance. It must, however, be fixed some time before the angler commences operations.

CHAPTER XVIII.

THE SALMON, HINTS ON FISHING FOR.

The salmon is undoubtedly and pre-eminently the monarch of the rivers and the streams. His size, vigor, grace, and proportion stamp him as the "noblest Roman of them all." Out of the water he has long enjoyed the highest reputation; but until recently he has been simply the illustrious stranger, of whose good qualities we saw and acknowledged, but of whose history we were ignorant. We have been guilty of such gross mistakes respecting this noble fish, that, until a short time since, we were literally extirpating the salmon from our rivers. Now, however, a better system prevails under improved knowledge. Even now but few fisherman can tell how many different species of this magnificent and common fish there are in our waters. Nay, even professed ichthyologists have been at fault on this matter.

Leaving the history of the salmon to other and abler pens, I may be permitted to describe the approved method of capturing this princely fish. I will take the rod as the first, if not the most essential portion, of the salmon-fisher's equipment. In my remarks on rods in general, I have

described the principle on which a rod should be made, and the material of which it should be constructed. A salmon rod should be from sixteen to eighteen feet long. Though not one of the shortest or weakest of mankind, I have found that the twenty-feet rod becomes too tiresome and unwieldy for daily use. A rod eighteen feet long at the outside, with a top of greenheart or of split bamboo, springing gracefully from top to butt, balanced with a winch containing from eight to a hundred yards of stout line, is one that would delight the heart of the most ardent brother of the angler. The winch may be one of those containing a break spring, or what the makers call a spring washer. The new composition reel, which is at once light, compact, easily worked, not deranged by heat or water, seems to have every essential quality of a good reel, though time alone can prove its endurance. The running line should be of plaited silk, and the casting line of the strongest gut—the three-ply twisted is generally recommended. The fly cast should be of the strongest single gut, well tested, and selected with great care The lengths may be joined together with the single fisherman's knot; but the knot elsewhere described, with a buffer whipping, is the best of all. Salmon flies are dressed somewhat differently to those used for trout. They are so whipped as to leave a small but strong loop of stout gut at the extreme end of the shank, close to the head of the fly. The end of the fly-cast is slipped through this, and knotted with a single knot; a running hitch-knot is then made round the gut, and, when drawn tight, makes a strong, neat, compact knot which, while firm, admits of the fly being changed easily when required. Some anglers attach a drop-fly some four feet from the end fly, but the best anglers do not. One fly will be found quite enough to maneuver and manage properly by the tyro in salmon-fishing.

Ere we proceed to the consideration of the flies themselves, and hooks on which they ought to be dressed, perhaps the method of casting a salmon-line and maneuvering the flies ought to be considered, as they differ somewhat from the ordinary fly-fishing, in consequence of the greater length and weight both of the rod and the line, twenty-five and even thirty yards of line having been frequently thrown by skilled anglers. The best and clearest directions for salmon-casting are those given by a well-known angler in

salmon rivers, and an author of no little repute. He says:—

"The salmon rod is to be held with both hands, one above, and the other below, the winch. In throwing from the right side, the right hand is to grasp the rod above the winch, the left below it. In casting from the left shoulder, the left hand is to be first, and the right last; that is, it must clutch the rod between the winch and the extreme butt-end of the rod. In fishing down a river on its right side, the left shoulder cast is to be used; in fishing from the left bank, the right shoulder throw is the proper one. Stand at the head of a stream, looking down it as it runs from you, the bank on your right side is the right-hand bank, that on the left the left-hand shore. In ascending a river, the left-hand bank is on your right side, and the right-hand bank on your left. This explanation may be deemed superfluous, but I fancy it will enable me hereafter to be more perspicuous than if I had not given it.

"I'll suppose the salmon-fisher coming down the right side of a river, and that above him, to his right, are cliffs or trees—how can he bring back to that side over his right shoulder, rod and line, without causing them to come into collision with the impediments behind him on his right? He can do so in two ways—the first in greater part wrong, the other perfectly right. The first and imperfect way I call the back-handed cast. It is performed thus: The point of the rod held nearly perpendicularly up before you; the forward and upward slanting direction being very slight indeed; the point of the rod is swept to the left, and with it the line to its entire development; then the hands, no, not both, but the right one, wrist and fore-arm are turned over, backward to the right, and the rod brought round in the same direction; the line is turned over circularly, and propelled down or obliquely across the current. I frequently throw in this way, for the purpose merely of easing the arms, fatigued from the monotonous action of throwing overhand from the right or left shoulder. It will be seen that the effect of this throw will be to carry the line clear from the bank over the current's course, and cause it to alight down stream to the right. Notwithstanding, the action of the arms must be cramped, for it is reversed in the overhanded throw, and the cast must be very limited in extent. Besides, when fishing from the right bank of a river, the fly can never be so neatly worked against the water with the right hand

holding the rod above the winch, as when the left hand holds it there."

The second method of casting from the right bank, and which is the proper one, I will now explain:

"You hold your rod, the left hand being above the winch, and the right one beneath it; left leg foremost, and left side toward the river.

"You bring your rod round, by, over, and beyond the point of your left shoulder, which motion will carry the line to its full extent upward over the bed of the river, and feeling that the line is so extended, you bring back a little, in the direction you are going to cast, the point of the rod, and making use chiefly of the action of the left arm, you propel the line forward by a motion you give the rod, as if you were going to strike at something hovering in the air before you. The forward motion of the rod will be checked at a short distance, unless you bend forward with it, and the line will be sent straight out, the fly and gut-line to which it is attached coming first in contact with the water.

"Giving the arms and bending the body too much with the rod, in making the cast, is a very bad habit, as it brings the point of the rod too close to the surface of the water, deadens its elasticity, and causes the line to fall in a loose and slovenly manner on the water. This left shoulder cast is only absolutely necessary when you are fishing from beneath the right bank of a river, and have behind you impediments to a right hand sweep of your rod and line. If the right bank be flat or shelving, if it be clear of obstructions, I can see no material objection to right-shoulder casting from off it.

"The straight right-shoulder cast is done thus: The right hand holds the rod above the winch, the left below it, the right side is next the river, and of course the right foot is foremost. You bring your rod and line boldly and freely in a fine, easy, wide, semicircular sweep over your right shoulder, and then you send them forward by communicating to the right fore-arm sharp action, as if you were going to hit something elevated before you with the soft part of your closed hand, on the little-finger side.

"If all this compound action—bringing back the rod and line over the right shoulder, and then sharply sending them forward—be performed dashingly and energetically, without nervousness, stint of sweep and strength, your fly will

be sent straight away to its destination, similarly to, but not so swiftly as an arrow shot from above at an object sitting beneath you on the water, at a distance of twenty-five or thirty yards. The straight casts, whether from the left or right shoulder, are, generally speaking, the best. At any rate, executed by a proficient, they are always the neatest, and should by beginners be the first learned and practiced to perfection.

"They can be performed with great accuracy, so as to enable the angler to determine almost to an inch the precise spot on which his fly is to fall. They cause the fly and casting-line to touch the water first, and enable you to commence working the fly, or showing it to the fish, sooner than you could do if much of the winch-line came in contact with the water simultaneously with the casting-line. The effect of the straight-cast is less disturbance to the water than that of any species of cast; the only defeat that can be attached to it is, that you cannot by its means throw so far as by using the side, or rolling-cast, but you can throw it more neatly.

"Your fly and gut-line must fall always first upon the water, and not roll on to it by means of the winch-line first coming into contact with the liquid surface. The rolling descent of the line and fly should be avoided *totis veribus*, with mortal might and main. The error of the majority of salmon-fishers lies in their working the fly through the water with too much force and rapidity. I advise gentle working of the fly through and against the water, with no more action than is required to display before the eyes of the fish the artificial bait attractively; with no more speedy power than can be easily compassed by a pursuing fish."

These remarks embody the essential principles of casting the salmon-fly. With respect to the maneuvering the fly on the water, there is no such difference of opinion as in fishing for trout. There are no up and down stream-men. The fly must not be allowed to float down with the current, but worked up against it, up and down beneath the surface of the water, not dangled on the top, as in dipping. The rod must not be allowed to remain still, but work up and down, gradually drawing the fly toward the point of the rod, up stream until it sweeps over the possible haunts of the salmon. The fly, under this motion, seems like a thing of

life from the action of the water, and when the waters are high and cloudy, a large fly possesses an attraction which few salmon can resist. It will be obvious, that with the tip of the rod lower in proportion than in trout-fishing, the angler has no light work to perform when fishing for salmon.

The salmon-fisher must never be disheartened. If there are salmon in the water, there is a chance of catching them by any one possessing the necessary skill, and no little perseverance. With a creature so impulsive, the angler need never despair. Even though streams runs pure as crystal, and the water is low, fine tackle and suitables flies will do wonders.

He will sometimes rise at your fly, refuse it, and come again. This will try the angler's patience, test his experience, and prove his skill. Do not be in a hurry; haste may spoil all. Some able sportsmen will say—"Cover him again directly;" others advocate a few minutes' rest. Perhaps the latter is the best play in well-fished waters. Again and again will Mr. Salmon rise at the tempting bait, and still refuse it, and yet be hooked at last. If he should refuse altogether let him remain quiet for a few minutes, and try a fresh fly. If this does not tempt him, try a smaller fly of the first pattern, and work the fly so that it sinks a few inches beneath the surface. At length he will show his "silvery sides' in earnest. If you can help it, do not strike in a hurry, or you may jerk the fly from him. Watch for the turn after he has seized the bait, and then strike. If you feel the fish before this occurs, you will of course strike at once. The rattle of the reel announces that the contest has begun. If the salmon is fresh run, he will seize the bait with eagerness, and hook himself. When the water is low and bright much judgment is required; for too much haste in striking will spoil all.

Away goes the startled and indignant fish; swift goes the line from the reel; and then the angler watches his opportunity to check the mad career of the fish. He can only do this by letting the fish feel the pressure of the line and the hook as he turns, and away the fish dashes again, and perhaps indulges in some gyrations in the air, in the hope of breaking the line with his tail. If you can, just let him feel the line when he gets to a long distance, so as to induce him to turn, and exhaust himself by rapid races, backward

and forward. Beware of bullying the fish when first hooked, or he may lead you a pretty dance over rapids and shallows and through pools, where the angler must follow. If the banks are clear of rocks and trees, it is not difficult to do this; but, otherwise, the chances are all in favor of the fish. A few turns will show the habits of the fish, and he must be treated accordingly. Some fish are sulky, and lie like a stone at the bottom, and will not stir even when well stoned. Others take to the leaping and jumping exercises. Some dash to and fro, while others take the straight course, either up or down river. Patience and coolness are requisite, for the angler is apt to be carried away by the excitement, lose his presence of mind, commit some bungle, and snap goes some part of the tackle. Do not listen, however, to the advice of a by-stander, but use your own judgment. If you fail, you will, at least, have gained experience, while, if you see the scaly gentleman turn exhausted on his side your pleasure will be the more intense. A fair-sized fish will take you an hour to kill, others will occupy your time and skill for two or three hours.

While on this part of the subject, let me give the young salmon-fisher a few general hints:

When tired, leave off fishing until "tired nature is restored."

Do not fish when your style is careless or indifferent. It is better to take a nap than be surprised by a sharp-set salmon.

You must be up early to obtain the best casts.

Always play your fish with as little line as possible. Butt him as soon as he exhibits signs of weariness.

When the fish leaps in the air, lower the top of your rod, so that the line may fall slack.

Endeavor to direct the fish into clear and open water, away from narrow channels, choked bottoms, overhanging banks.

Do not, if possible, attempt to haul in the line with your hands. Run backward if you have the opportunity. Always use your legs rather than your hands. If in a boat, and the salmon rushes towards you, it may be imperatively necessary, with a common reel to your rod, to haul in the line through the rings to let it fall at your feet, and in this predicament a multiplying reel is valuable, and, indeed, this is its only value.

Fish the water well, and do not think the time misspent, if there be salmon in the river; for in no sport is perseverance better rewarded than in salmon-fishing.

It requires great experience to know the haunts of the salmon. On most rivers guides are accessible who know the run of the water, and the most likely places for the fish. Without such help the angler will have to exercise his own judgment, which will be assisted by the study of the following hints:

Salmon, as a rule, lie on a stony, and avoid smooth, muddy, and even gravelly bottoms. They are seldom to be found in a long, straggling reach of shallow water, which does not lead directly to some pool, or still, deep water. A swift stream, on the contrary, running into some still watery depths, is much frequented by the best fish. Salmon are seldom found in the middle of the current, they avoid it, and lie at the sides, close to pieces of rock. Where the stream is but light, and equally diffused, the salmon is quite as likely to be in the middle of the stream as at the sides. It has a fancy for the quiet water between two currents formed by pieces of rock intercepting the stream. Where the streams unite, there the salmon lie.

I have pointed out, in a previous chapter, the method of bottom-fishing for salmon. I will now touch upon the tender ground of the flies.

There are some anglers who affect to believe that it little matters what combination of colors or materials you use—salmon will rise at them. That mere patterns are absurd we do not believe, though mere form is perhaps of less consequence in salmon-fishing than in fishing for trout. The size of the fly is, however, of more importance. When the waters are high, large flies are frequently taken; when low and clear, smaller flies are imperatively necessary. Old anglers used to affirm, that in dull weather a bright fly should be used, and in bright weather a dull fly. Modern anglers know better than this, and practice has confirmed their knowledge. Bright insects belong to sunny weather, as philosophy and reason have pointed out.

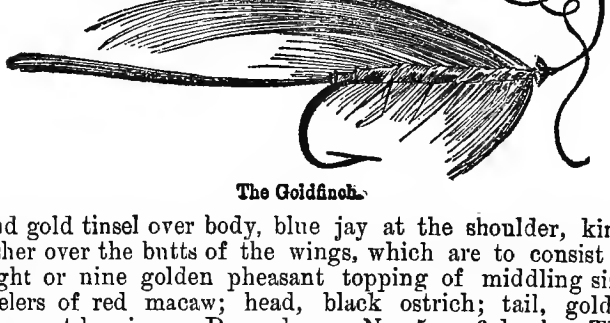
Before I proceed to describe the different sorts of salmon flies, let me advise the young angler to make his own. He will find it a great advantage, and a source of great recreation; and to enable him to judge of how they should look, here are six or seven beauties, old friends of mine.

From the 1st of February to the 10th of March, writes an old and experienced angler, the flies used are very large, as the water is generally high. Those most in use and highly approved of are:—

1. Body, half light orange, half blue silk, ribbed with broad silver tinsel and gold twist. The hackle should be light-blue all over the body, under the shoulder a blue jay, orange silk bag, with one of darker hue just over it; a large lapping for tail, with ten or twelve of the largest-sized lapping for wings. Sprigs of the leading tail feathers of the golden pheasant, and four long feelers of blue and yellow macaw. It is dressed on a No. 3 and 4 hook with a long shank.

2. *The goldfinch,* which is made with a gold-colored floss silk body, black silk tag tipped with gold tinsel, yellow hackle

Fig. 45.



The Goldfinch.

and gold tinsel over body, blue jay at the shoulder, kingfisher over the butts of the wings, which are to consist of eight or nine golden pheasant topping of middling size, feelers of red macaw; head, black ostrich; tail, golden pheasant lappings. Dressed on a No. 5 or 6 hook. This is one of the best flies in use, though the golden pheasant toppings render it somewhat expensive. Fig. 45 and fig. 3 are varied dressings of this fly.

3. Black fly, with deep yellow hackle.

4. *Magpie.*—Half black, half orange silk body, with black hackle and gaudy wings.

5. Black silk body, black hackle, bright and gaudy wings.

6. Orange silk body, black hackle, brilliant wings.

7. *The colonel.*—Gold-colored silk body, with a black hackle and brilliant wings.

The whole of the above are to be tied on four or five twist gut.

Large gray donkey's fur flies are useful as a change.

From the 10th of March to the 1st of April, if the water holds high, the same flies are recommended; but if it becomes clear, a smaller size will be necessary.

From April 1, to May 1, all shades of green flies answer well, with green hackles. One made with green peacock body, with a black hackle, is highly spoken of. Green and brown, olives, gray flies, black, all shades of brown, are killing flies. The color of the natural fly on the water should be watched as nearly as possible. I have often been most successful by so doing.

The salmon peal or grilse begin to run about the 20th of May. The flies must now be much smaller, and the tackle much lighter. Orange body with the jay hackles, blue bodies with the same, black bodies, brown bodies of all shades, and Lochabars, (see Chapter XV.) All shades of green and olives will hold good during the remainder of the season.

An excellent fly is thus made, and may be used wherever a salmon may rise, (fig. 4.) A yellow mohair body, ribbed with gold twist and black hackle; long yellow floss silk, tipped with golden rail, a small topping, blue jay at shoulder, brown turkey or kite tail feathers for the wings, mixed with golden pheasant tail and neck feathers; guinea-hen and teal, and a topping over all; blue mohair head, and blue and yellow macaw feelers. Hook, No. 6.

Another good fly is one made with a mixed blue, green, and yellow body, silver tinsel, black hackle, peacock wing feather for wings, and a tail of red mohair, with a No. 7 or 8 hook.

A third fly is one with a body half pale red, and the remainder orange mohair, ribbed with gold twist; legs, turkey's wings, red hackle, with a black and white tail feather of the turkey for wings.

In the early portion of the year, orange body with the broad gold twist, smoky hackle, wings dark-brown from the bittern, (fig. 1.) As the summer advances, a fly, with yellow silk body, ribbed with gold twist, blood-red hackle, and

wings taken from the wing of a turkeycock, brown and mottled added to a few of the green fibers from the eye of a tail feather of a peacock, (fig. 2.)

I can only indicate the varied assortment of salmon flies which find favor with salmon-fishers in this elementary guide. If the young angler is puzzled in choosing a fly, he should always observe one point—to suit the size of the fly to the depth and clearness of the water, using brilliant flies in the sunshine, and dull flies in murky weather. Salmon will rise when the barometer is rising, but will not when it falls, and, as a rule, they do not bite in the middle of the day.

SEA-FISHING.

CHAPTER XIX.

FISHING FOR HAKE, COD, LING, BREAM, TURBOT, MACKEREL, WHITING, ETC.

In this age of excursions, when everybody, more or less, passes some time at the sea-side, it may be useful to give a few hints as to the sport which may be obtained by the angler, or rather by one who uses a line and hook by the shore, on the "deep sea wave," or in a tidal river or estuary.

Let me, however, premise that few sea fish afford much sport in the angler's sense. Some enthusiastic Waltonians would probably call it butchery, but a large quantity of fish may be caught, and though, from the strength of the tackle, there is but little chance of the fish breaking away, still it is not free from excitement, and affords an opportunity of changing the monotony of a sea-side residence, and of securing a basket of fish.

For rod-fishing, except sea trout, there is but little opportunity. At low water, on rocky projections, a species of perch may be caught with a rod and line freely. The hook is baited with a bit of garbage, the inside of a cockle, periwinkle, or other small shell-fish; probably a bit of paste would answer the same purpose, as these small fish bite freely, and are by no means so timorous as their river congeners. I have caught a fish not much unlike a gudgeon, or rather a smelt, in the same manner by the dozen, and when fried they make anything but a despicable addition to the breakfast table.

Far up in the rivers, by the side of old piles, bridge piers, or near a boat landing, some excellent sport may be obtained by fishing for smelts, crabs and flounders, with a rod, line, and worm, or a piece of mussel. These latter extraordni-

ary-looking fish bite freely, and have but little fear of the line. Whiting, of fair size, will also take a worm, a bit of fresh fish nicely wrapped over the hook, freely, if fished for about a foot from the bottom, where the stream is not too strong. A piece of eel chopped will attract a smelt in tidal rivers.

When mackerel are off the coast, they may be caught freely from a boat, with a rod and line, or a line only, if turned up and down, and the hook baited with a piece of red cloth, or piece of fresh fish. The spoon bait is also attractive to the larger and better fish. It may be dragged after the boat, or leaded and cast freely with the hand and leverage of the rod.

Whiting and turbot, and other flat fish are attracted by the sand-eel, found on the sea-shore. The hooks are tied by short lengths of line to a cross-bar of wood fixed to the principal line, and the hooks much smaller than those used in ordinary sea-fishing.

Hake, bream, ling, conger-eel, gurnet, and several kinds of flat fish are caught from a boat, in the cool of the evening and during the night, in from two to seven fathoms of water, with a strong sea-line and a large hook, which puts an ordinary angler's hook entirely in the shade.

Hake is a common fish, though it is seldom seen inland. It partakes somewhat of the cod in shape, and they are caught of all weights in the autumn months. They are fished for on a sandy bottom, some mile or two miles from shore, at varying depths, ranging from three to six fathoms. A sinker is first placed at the end of the line, and the depth ascertained and marked by a link on the line. The hook is then baited with a piece of the tail of the fish, rolled round so as the white flesh is seen, and the hook completely hid. If fresh fish is not obtainable, salt may be used, but it should be soaked carefully before using; the bait, sinker, and line is then cast over the side, so that the bait may nearly touch the bottom. The spare end is belayed, or fastened to the boat seat or suitable place. The fisherman holds the line in his hand, and if an adept, he has one in each hand, which he "saws" over the side of the boat, which gives the bait an "up and down" motion. The boat is motionless, save by the heaving of the swell, for it is held by a stone or grapnel. Suddenly, without previous warning, the fisherman feels a sharp tug at one of his lines, he lets

the other line run to its length, and commences to haul in the fish with both hands, so that the line falls in coils at his feet. The weight of the fish is not so perceptible as might be imagined, until it nears the surface, then its great mouth and eyes are anything but pleasant objects to the timorous angler. Quickness and dexterity is now requisite to lift in the fish, or else he will soon be off the hook. As soon as he is in the boat, strike him with a boat-stretcher behind the head, so as to kill him by breaking the spinal cord. A sharp knife will aid you in slicing a longitudinal piece from his tail, with which to bait the hook, and the same process is repeated. The foregoing plan of catching sea fish may vary in different localities.

For the benefit of my town-bred readers visiting at the sea-side, let me caution them against attempting to fish from a boat without they have the assistance of a practiced hand, for an accident is not unlikely, in consequence of the power of the fish and the necessity of killing him immediately. Smaller fish are kept alive in the "wells" of regular fishing-boats and smacks. I am now writing for the benefit of amateurs.

Some sport, or rather fun, may be obtained at the sea-side, by bobbing for crabs from a pier-head or projecting point of rock. A cinder is tied to a piece of cord, properly weighted and dropped along the bottom, inch by inch, in all the likely places for a crab to hide. As soon as the cinder comes near his claws, he seizes it firmly and with proverbial obstinacy holds it tight until he is drawn to the surface.

A fisherman will gladly take a stranger with him for a night's fishing for a "consideration," and to those in quest of a new sensation I recommend the investment.

CHAPTER XX.

THE FISHERMAN'S CALENDAR.

After describing the angler and his equipment, what to fish for, and where, the question naturally arises: When are we to fish? We have known tyros, and even people who ought to have known better, to rush to the river side on the first fine day with their rods, creels, and tackle, heedless

that the fish were out of season, and consequently unwholesome. I will therefore review the angler's year, and show what to fish for in each month, in answer to the question of when to fish.

January.—Chill and inhospitable as January sometimes is, it is a month that sometimes affords a little sport to the angler on a mild and open day. Jack and perch will bite freely at a live bait if you can procure one. Minnows, which may be caught by thousands when you do not want them, are somewhat scarce now, and without them you may fish for perch in vain. If, however, you search in a quiet, retired nook in the creeks and brooks, you may find them; but you will have to do it quietly. You may find them in an out-of-the-way hole, and secure them by means of a hand-net; nay, I am not certain that the minnow-bottle would not answer the purpose best. If you are bent upon securing the sharp-set jack, by all means secure a fair-sized dace rather than a gudgeon, it will be seen better in the murky waters. Toward the latter end of the month, the finest roach may be taken. A fine red worm will be found the most tempting bait if you know where there are any red worms to be found. Boiled pearl-barley, allowed to get cold, and then cut into suitable bait pieces, will be found attractive, next to freshly made clean bread-paste. Don't be afraid of the damp and muddy banks of the river; put on your waterproofs, and you may easily secure a fair basket of fish. Grayling, too, may be caught, in suitable waters. The famed char may be caught also in January. The fly-fisher should air his budget of feathers, furs, and dubbings, and flies, in the sun, just to see that the moth is not taking his revenge on his effigies Take out your rod, and examine the splices of your top-joint, and see that the mildew is not seizing the ring fastenings, or decaying the varnish. A glance at the fly-hooks will not be amiss

February.—This month is not an enticing season for the angler. Perch, jack, and roach may be still taken in open weather. Grayling will rise to the fly, if the angler can tickle his fancy with a tempting one a few inches beneath the surface. A light dun will often prove effective; if the angler knows what flies are earliest in the stream, let him use one of the same kind; he will not regret the trouble. Salmon-fishing commences this month; but the angler should rather look to and air his fishing-boots, wad-

ing-stockings, and flies than to the fish. If you do try your luck with a fly, let it be a big and gaudy one.

March.—Though salmon-fishing is sometimes in its prime this month, yet the prospect of sport depends somewhat on the state of the rivers, and whether there is any "snow-broth" about. Salmon fishers should remember to hang their lines up to dry on their return home. You may tickle a trout's memory and make his mouth water by a delicate blue dun. The February-red, the cow-dung, and the brown dun and the March brown, are a good selection for troutie's bill of fare in the merry month of March. Remember, jack are spawning; perch and grayling are heavy with spawn, and should not be taken even where the law does not interfere to prevent it.

April.—Trout-fishing commences, and salmon-fishing is in its zenith. The artificial flies must now decrease somewhat in size, as the waters are becoming clearer. The trout will take a small dace in the larger streams, and the minnow, and even a fine scoured lobworm, has an attraction for them, and the salmon will not refuse the latter. In addition to the flies mentioned in the chapter for trout-fishing, try the yellow dun on bright days. The hawthorn is not to be despised. As the month passes on, the iron-blue and other flies of that class will be found taking. It is thought that the larger trout are too voracious to be in good condition until May. If the spring is a forward one, carp and tench may be taken; jack, grayling, and perch are spawning. Spring is now coming on apace; the hedges are green, and the sides of the streams are redolent with life.

May.—Every north stream is now open, and the fly-fisher is in his glory. The bottom-fisher, however, finds his occupation gone. Barbel, carp, tench, bream, chub, roach, and gudgeon, are spawning. Eels run well, but setting a night-line hardly becomes an angler, though it is the only engine that can be depended on for capturing them. After rain, when the water in the river runs high or is colored, perhaps the spinning-minnow will afford the best bait for trout. In clearer waters, in rivers where the stone-fly abound, its larvæ, or "creepers," form a most seductive bait. The most sagacious of the trout family are deceived by it. In a retired nook or cranny on the banks of the rivers, or under damp mossy stones,

they may be looked for and found. The yellow May-fly now appears as a precursor to the May-fly. The stone-fly jerks along the surface of the water, and the black gnat lies thick on the water, but the angler should beware of its sting. The yellow "sally" on some streams forms an excellent bait; but in others, gray and green drakes are in request, and the "alder" forms a morsel seldom refused. Dipping with either of these flies on warm days will secure a good basketful of fish. The appetite of the finny tribes, however, is satiated by the plentiful supply of food, and it is only by presenting the most attractive bait that the angler can succeed. In the very early morning, or in the "gloaming," a pair of light wings, and the top of the hook covered with a gentle or a creeper, will bring the angler a run, and furnish him with a breakfast or a supper.

June.—Beautiful, indeed, are the flowers of the field on a June morning, when the dew is still upon them, and before the heat of the sun makes their beautiful heads droop. Salmon will not now take the large and gaudy flies; their appetites require to be tickled with a choice, pretty, and delicate morsel, no bigger than a trout-fly. The sea-trout (*servius*) and grilse are coming up. Bottom-fishing commences, but the fish are not in condition yet. Dace will take a gentle, which, with red worms of the tiniest description, form the best bait for roach. Trout will rise to any of the flies mentioned for May. All kinds of dun-flies, fern-flies, and the coachman, is adopted for evening sport. All flies must be small and delicate in size. The jenny-spinner (which, by-the-by, is very difficult to imitate) will be found useful. Trout will take the fly well, particularly in the early mornings and evenings. Dipping is the only plan of catching them in the sunny mid-days, but the angler should keep well out of sight. Loch trout-fishing may be successfully practiced when a "flush" is found; a well-scoured bait in raising water will be found the best. In falling water fish, as a rule, are gorged with food, and indifferent to the most tempting morsel.

July.—The glorious summer is now upon us, and the eventide is beautiful in its soft delicious loveliness. The waters are low, and the salmon is scarcely to be tempted; a nice fly, sunk a few inches beneath the surface, will, however, sometimes tempt him. A neat bunch of lobworms or a spinning-minnow may be tried as a change for his

lordship. The sea-trout and grilse in some rivers will afford good sport, if tempted with a silver horn, with its ringed, black, and silver body—the golden-eyed gauge wing, red and black ant-flies, the July dun, the "hopper," (which is sometimes too familiar) are the best flies. Moths are more suitable in the evening. Grubs and larvæ of all kinds will be freely taken—meal-worms, and the wasp, grub, toughened, will add to the angler's resources in July. A cockroach is not despised by trout. Chub, dace, barbel, carp, gudgeon, &c., begin to bite freely. Look out for the dace with a small fly in shallow running streams, and chub under the friendly shade of the bushes with a palmer-fly. The cheese paste will not be rejected by the latter gentleman, and barbel will take the same morsel freely. Roach, perch, and jack are still suffering from the effects of spawning, but not so in

August.—For it is the bottom-fisher's carnival. He may secure as many fish as he can carry, if he is industrious, and possesses a fair amount of skill, and attends to these directions. Let him look after his gentles, and try to secure a few bred from a dead rat. The roach are delicate in their appetite, but even the biggest among them will look at a fly tipped with a gentle. The best trout lying lazily at the bottom of the stream may be tickled with the same bait, if a shot is added to sink the line, and it is brought up and down and moved by a series of jerks. It is worth while trying, for the trout are in capital condition. The flies that may be tried are the orange, cinnamon, and the August dun. Some of the earliest flies may be tried with success; indeed, in some rivers, night is the only time to fish for trout, and the proper baits are black, white, and gray moths. Salmon are not insensible to the charms of a fine moth. Char may be taken with a spinning-minnow, and may be tried with a fly. Throughout the month, fish of all kinds are in good condition.

September.—The salmon-fisher on many of the rivers finds his occupation gone, the fish begin to breed, and should be left quiet. In the early weeks the whirling blue dun, the little pale blue, and the willow-fly may be tried for trout, but they should not be disturbed during the last fortnight in any river. Dace and gudgeon are in demand for trolling purposes, for jack are in fine condition, and bite

freely. Perch may be caught by spinning with a moderate-sized dace or minnow—if the former is used, a jack is often tempted by it. This is the month for bottom-fishers; all coarse river fish bite with avidity. Cockroaches and blue bottle-flies have a wonderful charm for the chub in deep holes. Roach will look at the willow-fly, and many kinds of fish will rise at night to a moth. Lobworms will now be at a premium. They should be well sconred and watched day by day, so that the dead and diseased worms may be removed.

October.—This is an excellent month for the troller and spinner, and while you have the chance, try and secure a stock of baits—a friend adds, if you can. I have already given the pike-fisher hints as to how to preserve his bait for a season, when fish are plentiful and baits scarce. Roach will take boiled malt and pearl-barley now freely, if presented in a neat and delicate form. Barbel and bream are in good way for their excellent condition. Except you have access to a grayling stream, put away your fly-tackle after drying it carefully. Varnish your rod when you take it to pieces, and see that it is well dried, rub boiled oil over the brass-work. In the absence of more suitable baits, pike will take mice, frogs, and other strange morsels, but the trout and salmon fishing season is over.

November.—Bleak and disagreeable as this month too frequently is, the enthusiastic angler will find much to reward his preseverance, particularly if he has secured a good stock of pike-bait and minnow for perch-fishing. Perch are in good condition, and you will find him in deep still water after a flood, or near to a gentle eddy, where the food is brought by the water. Roach of the largest kind may be taken in deep water. Bream, chub and grayling are in fine condition. Barbel may be coaxed with greaves and chopped lampreys, if the frost holds off. Pike are ravenous, and will take almost anything. Other sports, however, interfere with the angler's recreation, and if the weather is not propitious, he had better stay at home.

December.—Jack and roach are still to be taken in open weather, and are well worth the trouble. Trolling, which affords the angler plenty of exercise, is, however, the only endurable sport for the most enthusiastic Waltonian. Some fish are taken from under the ice. Char, grayling, and perch will bite freely if you know their winter haunts and

habits. The angler may, however, cheer himself by partaking of the excellent bait which Christmas generally presents, and hope for coming triumphs in the approching spring.

APPENDIX.

THE WEIGHT OF FISH.

As it is inconvenient to carry a weighing machine about, and as anglers will persist in guessing at the weight of the fish, I give here a scale which will enable them to ascertain with tolerable precision the weight of the fish when in good condition. It must be borne in mind, however, that the weights given are only approximate. See page 136.

USEFUL RECIPES FOR ANGLERS.

To keep Moth from Feathers and Tackle.—Pepper them profusely and keep them from the damp. Tobacco-leaf cut small and dispersed among the feathers and tackle is very useful. Put no faith in camphor, as it evaporates. Turn the tackle and feathers out and expose them to the air once or twice in the winter.

Varnish for Hooks and Tackle.—Dissolve shellac, or even sealing-wax, in double the bulk of spirits of wine; allow it to dry before using. One application is sufficient.

Varnish for Rods.—The best coachmakers' varnish. Two coats, each thoroughly dried, is requisite.

White Wax.—Two ounces of best resin, one-quarter ounce of bees-wax, simmer for ten minutes in a pipkin; add one-quarter ounce of tallow, and simmer for a quarter of an hour; pour the whole into a basin of water, and work it about with the fingers until it is tough and pliable.

Liquid Wax.—Dissolve some cobblers' wax in spirits of wine; shake up before using, and lay it on the silk with a feather. It is capital for weak or frayed silk, as the spirit evaporates and leaves the wax behind.

DIRECTIONS FOR STAINING GIMP.

Soak brass gimp in a solution of bichlorate of platinum, mixed in about the proportion of one part of platinum to eight or ten of water, until it has assumed the color desired. This will take from a quarter of an hour, to two or three hours, according to the strength of the solution; then dry the gimp before the fire, and while warm give it a coat of "lacquer" with a brush.

The above process is only applicable to brass gimp; copper and silver gimp do not take the stain properly.

TO STAIN GUT THE COLOR OF WEEDS, WATER, ETC.

Make an infusion of onion coatings as before directed, and when quite cold put the gut into it, and let it remain until the hue becomes as dark as required. A strong infusion of green tea will dye gut a useful color.

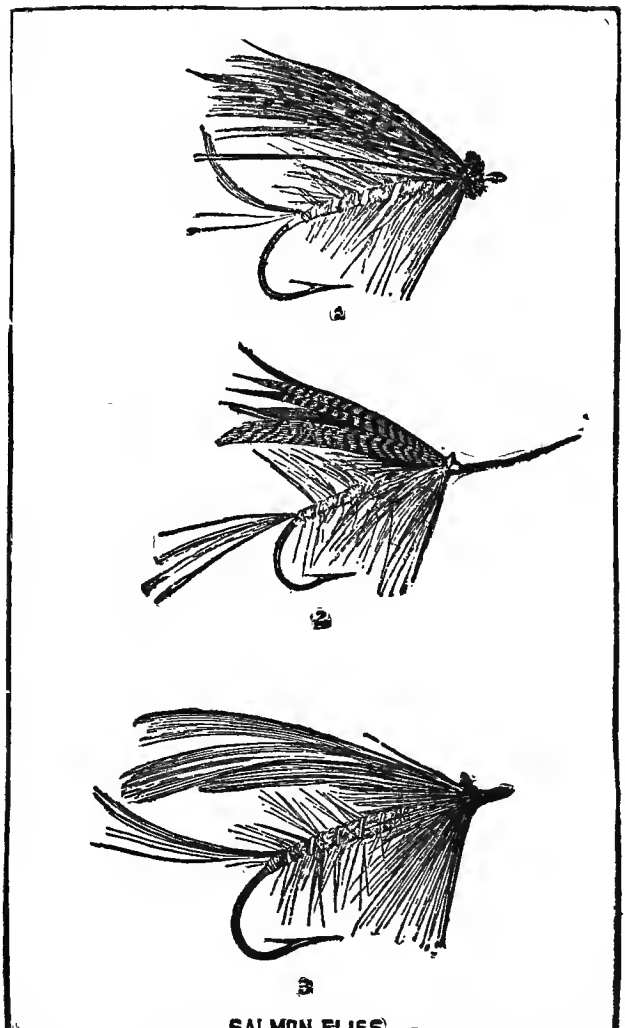
SCALE FOR ASCERTAINING THE WEIGHT OF FISH.

LENGTH IN INCHES.	DESCRIPTION OF FISH.																				LENGTH IN INCHES.
	Trout.		Salmon.		Pike.		Grayling.		Carp.		Chub.		Barbel.		Roach.		Perch.		Tench.		
	lbs.	oz.	lbs.	oz.	lbs.	oz.	lbs.	oz.	lbs.	oz.	lbs.	oz.	lbs.	oz.	lbs.	oz.	lbs.	oz.	lbs.	oz.	
9	0	4½	...		...		0	4½	0	7½	0	6	...		0	8	0	12	0	7½	9
10	0	6¾	...		...		0	6½	0	11	0	8½	...		0	13½	0	13½	0	10½	10
11	0	9	...		...		0	9½	0	14½	0	11	...		1	2	0	14½	0	14¼	11
12	0	11½	...		0	8½	0	10½	1	2½	0	14½	0	9½	1	3½	1	0	1	1½	12
13	0	14¼	...		0	11	0	13½	1	8½	1	2	0	12½	1	8½	1	4¼	1	6½	13
14	1	1½	...		0	13½	1	1	1	14½	1	6½	1	0	1	14½	1	9½	1	12½	14
15	1	0	...		1	0½	1	5	2	4	1	11½	1	3	2	5½	1	14½	2	2½	15
16	1	10½	...		1	4½	1	9½	2	11½	2	1½	1	7½	2	14	2	5½	2	10	16
17	1	15½	...		1	8½	1	14½	3	4½	2	8½	1	11½	3	7	2	13½	3	2½	17
18	2	6	...		1	13	2	5	3	14½	3	0	2	0½	4	1½	3	5½	3	12	18
19	2	12½	...		2	2	2	10½	4	9	3	8½	2	6½	4	12½	3	15½	4	6½	19
20	3	4	...		2	7½	3	1½	5	5½	4	1½	2	12½	5	9½	4	9½	5	2½	20
21	3	12½	...		2	8½	3	9½	6	2½	4	12½	3	4	...		5	5½	5	15	21
22	4	5½	...		3	4½	4	2	7	11½	5	7½	3	12	...		6	2½	6	13½	22
23	4	15½	...		3	2½	4	11½	8	1½	6	4	4	4½	...		7	0½	7	12½	23
24	5	10½	5	6½	4	4½	5	5½	9	3½	7	1½	4	13½	...		7	13½	8	13½	24
25	6	5½	6	1½	4	3½	...		10	6½	...		5	8	...		8	15½	10	0	25
26	7	2½	6	13½	5	7½	...		11	11	...		6	3	...		...		11	4½	26
27	8	0	7	10½	6	1½	...		13	2	...		6	14½	...		...		...		27
28	8	15	8	8½	6	13	...		14	10	...		7	11½	...		...		...		28
29	9	14½	9	6	7	9	...		15	4	...		8	9½	...		...		...		29
30	10	15	10	8	8	6	...		16	0	...		9	8	...		...		...		30
31	...		11	9½	9	3½	...		...		...		10	7½	...		...		...		31
32	...		12	12½	10	2½	...		...		...		11	8½	...		...		...		32
33	...		14	0	11	2½	...		...		...		12	10½	...		...		...		33
34	...		15	5½	12	2½	...		...		...		13	13½	...		...		...		34
35	...		16	12	13	4½	...		...		...		15	1½	...		...		...		35
36	...		18	3	14	7½	...		...		...		16	6½	...		...		...		36
37	...		19	12	15	11½	...		...		...		...		...		...		...		37
38	...		21	0½	17	0	...		...		...		...		...		...		...		38
39	...		23	2	18	6	...		...		...		...		...		...		...		39
40	...		24	15½	20	0	...		...		...		...		...		...		...		40

NAME OF FISH.	Haunts.	Time of Year.	Spawning Season.	Depth.	PRINCIPAL BAITS.				Sizes of Hooks.
1 Salmon	Swift streams flowing from sea	March to Aug.	Sept.	Top & bottom	—	Fly a.	Worm	Salmon roe	No. 8–5
2 Trout	Swift deep stream	March to Sep.	Nov.	Top & bot.	Minnow	Fly a.	Worm	Salmon roe	7–9
3 Pike	Flaggy rivers and ponds	July to Feb.	March	Midwater	Gudgeon Dace	Fly a.	Worm	—	4
4 Perch	Open rivers	Feb. to Oct.	Feb.	Bot. & mid.	Minnow	—	Worm	—	9
5 Chub	Shadod ditto	All the Year	March	Top & bot.	Minnow	Fly n.	Worm	Cheese p.	8
6 Grayling	Swift streams	Oct. to Jan.	—	Top & bot.	—	Fly a.	—	Greaves	9
7 Bream	Sluggish ditto	March to	July	Bottom	—	Fly n.	Worm	—	11
8 Barbel	Swift gravel streams	May to Oct.	April	Bottom	—	—	—	Greaves	9
9 Carp	Ponds	March to Nov.	May	Bottom	—	—	—	Sweet p.	11
10 Prussian ditto	Ditto	March to Nov.	May	Midwater	—	—	Worm	Do.	13
11 Roach	Rivers	July to April	May	Bottom	—	Fly n.	—	Plain paste	13
12 Dace	Ditto	All the Year	March	Midwater	—	Fly n.	—	Plain paste	13
13 Tench	Muddy ponds & rivs.	May to Sept.	June	Midwater	—	—	—	—	12
14 Smelts	Rivers flowing from the sea	July to Nov.	—	Midwater	—	—	—	—	13
15 Rudd	Rivers	April to Oct.	—	Bottom	—	—	Worm	Plain paste	10
16 John Dory	Lakes	March to Oct.	—	3 inches from bot.	—	—	—	—	9
17 Pope	Ponds	April to Oct.	—	Bottom	—	—	Piece of eel	Plain paste	10
18 Miller's Thumb	Rivulets	April to Nov.	—	Bottom	—	—	Worm	—	13
19 Stone Loach	Ditto	May to Aug.	—	Bottom	—	—	Worm	—	13
20 Gudgeon	Streams and rivers	April to Oct.	3 times a year	Bottom	—	—	Worm	—	13
21 Eels	Muddy rivers and ponds	All the Year	—	Bottom	—	Fly n.	Worm	—	
					—	—	Worm	—	
22 Bleak	Clear streams	April to Oct.	—	2 inches from sur.	—	—	Worm	—	13
23 Minnows	Swift streams	March to Oct.	July	Bottom	—	—	Worm	Plain paste	13
24 Lampreys	Muddy rivers	All the Year	—	Bottom	—	—	Worm	—	13

So will warmed writing ink; the gut to be steeped in it a few minutes, and immediately afterwards to be washed clean in spring water. You will obtain another good color by steeping gut for three or four minutes in a pint of boiling water, in which you have put a teaspoonful of alum, a bit of logwood the size of a hazel nut, and a piece of copperas the size of a pea. To make your gut a water color, take a teaspoonful of common red ink, add to it as much soot, and about a third of a teacupful of water; let them simmer for about ten minutes; when cool, steep your line until it is stained to your fancy.

This is a very good color for the purpose, but should be applied gradually, taking out your gut frequently to examine the depth of the tint, lest it should become too dark.



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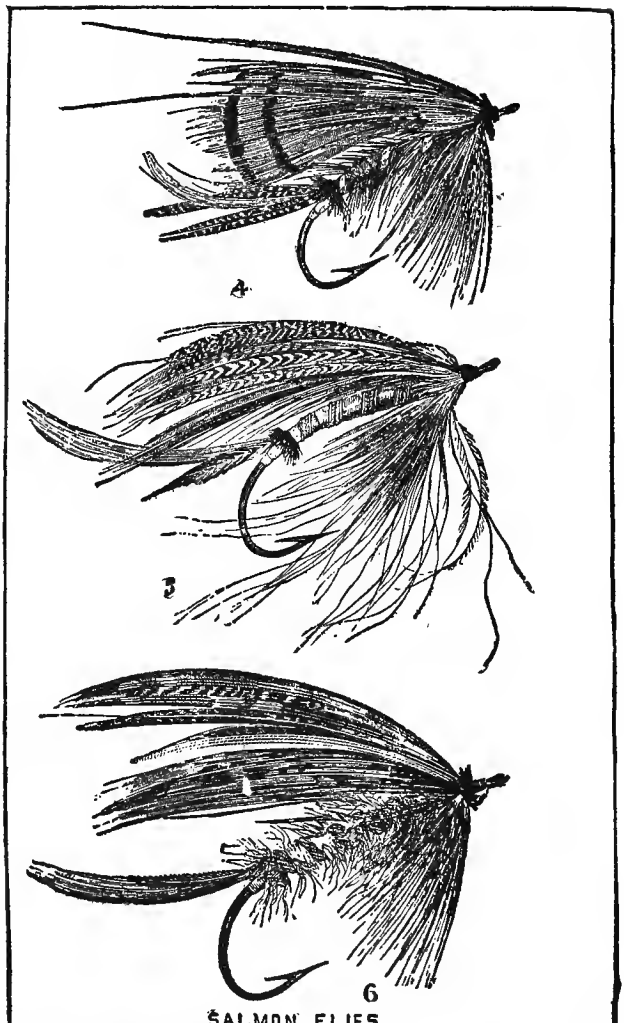

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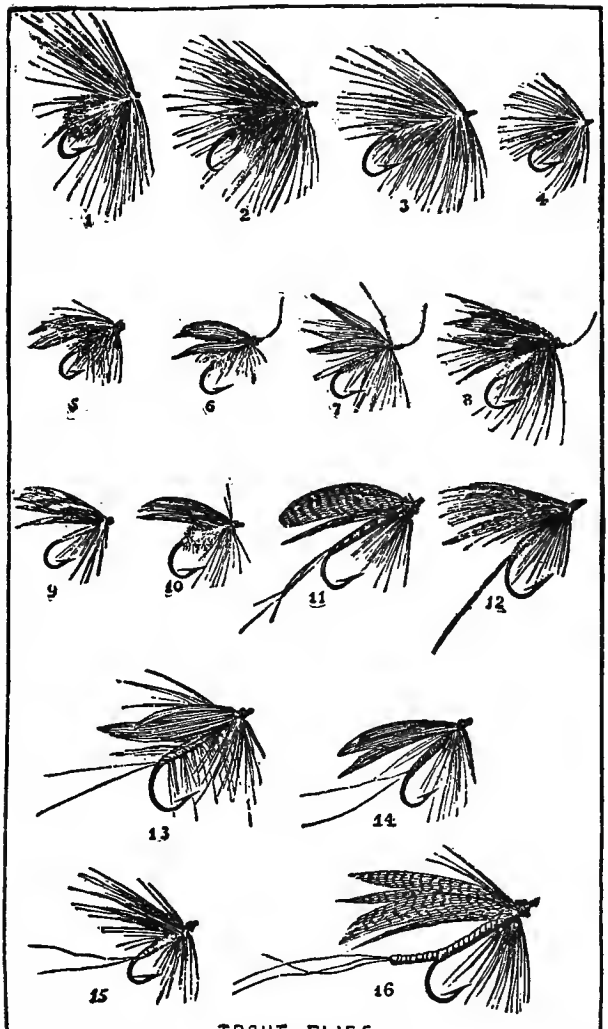

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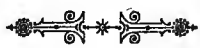

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